University News

A FORTNIGHTLY CHRONICLE OF HIGHER EDUCATION & RESEARCH JUNE 1, 1980

Prof. M.V. Mathur, Director, National Institute of Educational Planning and Administration, inaugurating the Fourth Training Programme in Financial Management held recently in New Delhi.

CLASSIFIED ADVERTISEMENTS

UNIVERSITY OF CALICUT

Calicut University P.O.

No. Ad. A3/668/80.

Notification

Applications are invited from qualified candidates for appointment to the undermentioned posts in the University.

Category	Scale of pay	No. of Vacancies
1. Professor of Applied Mathematics	1450-2050	1
2. Professor of Library Science	,,	1
3. Reader in Journalism	1125-1725	1 (in the absence of a suitable candidate for the post of Reader, a Lecturer will be appointed)
4. Reader in Botany	,,	1 (temporary)
5. Reader in Commerce (Transport Management)	,,	1
6. (i) Lecturer in Physics (with specialisation in Experimental area related to Nuclear Physics or Solid State Physics)	800-1600	1
(ii) Lecturer in Physics	,,	1 (temporary)
7. Lecturer in Drama	,,	2
8. Lecturer in Economics	,,	1
9. Lecturer in Mathematics	,,	1 (temporary)
10. Junior Engineer (Instrumentation)	800-1500	1

N.B. (i) Categories 1, 3 and one of 7 are reserved for Ezhava/Thiyya/Billava candidates.
(ii) Categories 4, 8 and 9 are reserved for SC/ST candidates.
(iii) Category one of 6 is reserved for Muslim Candidates.
(iv) The remaining posts are open.

However, for categories 1, 3, 4, 6, 7, 8 and 9 if no suitable candidates are available from the communities for which the posts are reserved, candidates from other communities/by open merit will be considered for appointment as per rules.

Qualifications and age for Junior Engineer (Instrumentation)

At least a II class degree in Engineering/M.Sc. with 2 years experience in the operation of sophisticated Instruments/repair and maintenance of Modern instruments.

Desirable

A flair for R & D activity in instrumentation.

OR

Diploma in Engineering/B·Sc. with 8 years experience in the operation of sophisticated instruments, repair and maintenance of modern instruments.

Age

Below 35 years with usual relaxation to Scheduled caste and Scheduled tribes and other backward castes.

Appication forms, details of qualifications age ec. in respect of categories 1 to 9 and prescribed application forms in respect of category 10 can be had from he Deputy Registrar (Admn.) of the University on payment of Rs. 5/- by way of crossed Indian Postal Order drawn in favour of the Finance Officer, University of Calicut and payable at Calicut University Post Office.

Last date for receipt of completed application is **15-6-1980**.

REGISTRAR

UNIVERSITY OF NORTH BENGAL

Advt /10/R-80 dt. 20.5.80

Applications in prescribed forms are invited for the following posts, viz :

(A) Professor of History (post one) in the scale of pay of Rs 1500-60-1800-100-2000-125/2-2500/- with allowances and other benefits as per University Rules.

(B) Reader in Commerce (post one) in the scale of pay of Rs 1200-50-1300-50-1900/- with allowances and other benefits as per University Rules.

(C) Lecturer in Commerce (post one) and lecturer in Economics (post one, in the scale of pay of Rs 700-40-1000-50-1600/- with allowances and other benefits as per University Rules.

Minimum qualifications for posts A, B and C :- (a) A Doctor's degree or published research work of an equally high standard, and (b) consistently good academic record with Ist or high second class (B in the seven point scale) Master's degree in the relevant subjects or an equivalent degree of a foreign University.

Provided that if the selection committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard, it may relax any of the qualifications prescribed in (b) above.

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available or is not considered suitable, a person possessing a consistently good academic record (weightage being given to M. Phil or equivalent degree or research work of quality) may be appointed provided he has done research work for at least two years or has practical experience in a research laboratory/organisation on the condition that he will have to obtain a Doctor's degree or give evidence of research work of equivalent high standard within five years of his appointment, failing which he will not be able to earn future increments until he fulfils these requirements.

Additional requirements for post A : An eminent scholar with published work of high standard actively engaged in research. Ten years' experience of teaching and/or research. Experience of guiding research at doctoral level. Or, an outstanding Scholar with established reputation who has made significant contribution to knowledge.

Additional requirements for post B : (a) evidence of being actively engaged in (i) research or (ii) innovation in teaching methods, or (iii) production of teaching materials; (b) above 5 years experience of teaching and/or research provided that at least three of these years were as lecturer or in an equivalent position. The qualifications may be relaxed as per directives of the University Grants Commission.

Posts A, B & C are reserved for candidates belonging to Scheduled Castes/Scheduled Tribes provided they fulfil the essential Minimum qualifications laid down. In case qualified candidates are not available, these will be treated as unreserved.

Choice of selection committee may not necessarily be confined to those who apply formally. No applications except in prescribed application forms may be considered.

Prescribed application forms may be obtained from the office of the Registrar personally on payment of Re. 1/- in cash at the University cash counter or by sending a self addressed stamped Re 1.20 (one rupee and twenty paise) envelope of 25 cm × 13 cm with crossed Indian Postal Order of Re. 1/- in favour of the University of North Bengal. Filled in application forms 6 (six) copies must reach the office of the Registrar, P.O. North Bengal Univesity Dist. Darjeeling Pin : 734430 within 21 days from the date of publication of this notification.

REGISTRAR

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Editor: ANJNI KUMAR

Training Programme in Financial Management

The National Institute of Educational Planning and Administration organised the Fourth Training Programme in Financial Management for Finance Officers of Universities in India from May 5-17, 1980 at New Delhi. It was attended by finance officers from 17 universities, viz, Punjabi University, University of Bombay, A.P.S. University, Roorkee University, Haryana Agricultural University, Lucknow University, Kumaon University, Garhwal University, Sambalpur University, Nagarjuna University, Jabalpur University, Saurashtra University, Gorakhpur University, University of Madras, Meerut University, Bhopal University and University of Jodhpur. Some Finance Officers were called 'Finance Officers', other were Controllers and a third set of people was called Deputy Registrars (Finance). Most of them were on deputation from other departments like State Civil Service or Accounts and Audit Departments. The training programme was organised with the following main objectives:

(a) to enable the participants to appreciate the role of education in general and higher education in particular in the socio-economic development of the country;
(b) to develop in them better comprehension of the existing system of financial administration in the Indian Universities and to facilitate its systematic review particularly in the context of changing dimensions of higher education in India;
(c) to assist in the identification and understanding of the newer role and responsibilities of the finance function of Indian Universities, and to assess its impact on academic programmes; and
(d) to promote an awareness of the techniques of modern management in general and of modern financial management in particular, especially from the point of view of their application in educational administration.

The contents of the training programme was drawn up by a Steering Committee which consisted of Prof M.V. Mathur, Director, NIEPA as its Chairman, Shri. J. Veeraraghavan, Executive Director, NIEPA, Shri R.K. Chhabra, Secretary, UGC, Prof B.S. Sharma, Faculty of Management Studies, University of Delhi, Shri Dhirendra Krishna, Finance Officer, University of Delhi and Dr C.B. Padmanabhan, Fellow, NIEPA.

The following topics were covered in the training programme:

1. UGC and its Working
2. System of Financial Administration in Indian Universities
3. O & M Methods in University Administration
4. Revenue, Planning, Monitoring, Preparation and Maintenance of Accounts in Universities
5. Grants-in-aid to Affiliated Colleges—Patterns and Procedures
6. Delegation and Control in Indian Universities
7. Planning, Programming and Budgeting System
8. Financing of Higher Education in India
9. Higher Education in India
10. Elements of Financial Information Systems
11. Role of Finance Officer—Panel Discussion
12. Role of Finance Officers—Lecture Discussion
13. UGC and Financing of Higher Education
14. Internal Audit
15. Effective Utilisation of Financial Resources
16. Staffing and Promotional Policy
17. Role and Function of Finance Committee

(Continued on page 310)

Evaluation of Performance Vs Our Universities

R. P. Puri[*]

The progressive growth of an institution is hampered if it does not implement a system of meaningful evaluation of the work done by its employees. In consequence, they may become apathetic towards their duties, and, may also, in due course of time turn to be parasites. Both will lose equally at the end.

In those universities where promotion avenues for the non-teaching employees have reached a somewhat saturation point for the time being, the assessment of their work seems to have lost its significance, maybe temporarily, particularly when appreciation of the good work done is sought to be measured in the scale of promotions or desired to be rewarded in the shape of immediate substantial financial benefits. There is, thus, no gainsaying the fact that in such a situation employees most likely will work below their potential and ability if the criteria for measuring their work performance and efficiency are vague. They will become disinterested if the "active" and the "inactive" workers are treated alike and their achievements are evaluated without any distinction being made in the quality of their respective performance when time comes for reward distribution. Their indifference is justified when their efforts are likely to remain unappraised and unrewarded suitably.

It is, therefore, both desirable and essential, that what is expected from the employee is made known to him in an unambiguous manner before he enters upon his office. The fact remains that most of the employees do not know the gradings and the criteria on which their performance is appraised. It is the confidential report which contains the items in respect of which an employee's work is adjudged. He must, therefore, know what traits of his would be adjudged and graded. And, if the format of the Confidential Report is different for various positions, the relevant form should be brought to his notice as and when a change occurs in his official status. The employee will, then, have no basis for complaint when called upon to explain at the appropriate time why his output lagged behind the specified standards. He should know how his performance would be weighed and what would be the resultant benefits if he puts in more labour in executing his job with reasonable measure of accuracy and speed. Unclear allocation of functions and responsibilities often becomes a subject of controversy—authorities insist that a certain job is the responsibility of the employee, while he may refuse to do it.

Performance standards should preferably be set out in a verifiable manner, ensuring that quality does not suffer at the cost of quantity. Jobs should be done diligently and meticulously, otherwise their purposes may be thwarted.

Objectivity unquestionably plays a crucial role in assessing performance correctly. Conversely, if evaluation is made with personal biases and prejudices, the worker and the university will suffer alike. Factors that may impede objective evaluation, therefore, ought to be shunned and disallowed to exercise any influence. Here the Reporting Officer has a positive role to play. He cannot ignore this stark truth for long. If he becomes a victim of these undesirable attitudes, his action may adversely recoil on him and even endanger his own career. To cite an instant. In some cases, the criteria for allowing high grades may be other than work performance. As for example, there may be individuals who enjoy being treated slavishly and who indulge in flattery. Unfortunately they behave in this fashion because they want to be in the good books of their superiors. The entire blame cannot lie on such individuals. The evaluators are to be blamed equally.

Some of the evaluators are in the habit of allowing high grades, while others mark low. Since there is not one evaluator but many, evaluation made in this fashion may appear to be biased, for high markings allowed may not always be done accurately and be also not in consonance with performance standards. Such errors of leniency can, of course, be ignored, and sometimes tolerated when performance of an individual is not to be awarded any reward. But in the presence of some system of rewarding people, these errors can create serious administrative problems, including frustration among employees when their jobs, identical and equal in quantum, are to be evaluated by two different persons, one giving high marking, the other low.

Sometimes, grading from "Very Good" to "Excellent" is awarded, knowing full well that the employee is not doing even twenty per cent of the work which another employee of equal status is doing, or should do, in another department/branch. Not only this. And, if after evaluating the employee in this manner, the evaluator seeks his transfer to some other Branch, the latter does not need to be reminded that no head of department would like to relieve an employee who has secured such a high grade. It is obvious, therefore, that it were the extraneous factors, and not exclusively performance standards, which weighed the mind of the Reporting Officer, or, for that matter, the Reviewing Officer, in grading the employee so high. Who is going to answer the fundamental question, namely : Is the action of the evaluator, in the interest of the university or that of the employee ? *Prima facie*, it is an irresponsible, to use a mild expression. The university will suffer so long as such an employee remains with it because he has not been fully and frankly told what his deficiencies are, so that all possible remediable steps could be initiated to bring about improvements in his working behaviour. The employee loses because wherever he goes, he carries with him false appreciation of his work.

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[*] These are personal views of the author who is Deputy Registrar at JNU, New Delhi.

Employees with identical designations working in faculty offices of a university in many cases earn high grades with less work, while those working in its main administrative wing with more both complex and tension-ridden, are awarded low gradings. This imbalanced assessment impells the staff, not surprisingly enough, to seek transfer from the administrative wing of the university to faculty offices.

There is also a tendency on the part of some evaluators to repeat the same rating (which could be high or low) for different traits of the individual. As for example, a person works in a department which does not have a full day's job. He may carry out his duties a bit accurately after taking more than the required time and may thus get high ratings (may be 'Excellent') for, say "Expeditious Disposal of Work". This individual may also have to apply only one or two rules framed by the university in the performance of his duties because the work is less, both in quantum and complexity. Thus for "Knowledge of Rules", he may again get "Excellent". In another department/branch, an employee of almost of the same calibre may have to deal with numerous difficult jobs needing application of, say, four or five types of rules. Naturally, he may not get the same grading as the one just mentioned.

Another dangerous trend that is being witnessed among evaluators is the gradual inflation in appraisal of the employees. This is done first for bringing employees on the scale of equality, the value of which in some newly established universities has assumed some urgency as well as importance; and secondly for reducing negative repercussions which may come to surface by giving low marks. The method of grading employees in this manner would thus tantamount to hiding their weakness and deficiencies.

Ironically, still another disturbing trend has set in. It is the so-called spirit and desire to save one's skin. The Reporting Officer does not want to earn the displeasure of his junior by evaluating him correctly even when the performance of the latter is "Below Average" in respect of some or all traits cited in the confidential report. Thus, in order to avoid "negative repercussions" only such gradings are awarded which are not required to be communicated to the employee because these are not adverse in content. If the Reviewing Officer adopts the same *unethical administrative attitude*, he will also fully endorse the gradings awarded by the Reporting Officer. But if on the other hand, the Reviewing Officer allows low gradings, or if he disagrees with the Reporting Officer's assessment, in trying to be true to his conscience, his action may cause flutter among the adversely affected employees. And if this action of the Reviewing Officer is not supported by the authorities in case a crisis develops, he is doomed for eve. His fate will also serve as an eye-opener for other Reviewing Officers who may not like to fall in disrepute in attempting to be objective. The results are obvious. Efficiency in the institution and responsiveness to duties on the part of employees will pale into insignificance.

It is necessary to make the employee realize from time to time what his deficiencies are, where he is erring, and whether his output is "Good", "Satisfactory", or "Below Average". Such an appraisal should be a regular ongoing process. Its frequency could, however, be reduced if the employee shows uniformly good performance.

It is obligatory on the part of supervisors and other superiors to set goals to be achieved by their respective departments and then to watch progress in their attainment within a reasonable time, affording allowance for handicaps and other constraints. One of the challenging tasks which an executive faces in personnel management, is to make a correct estimation of the employee's performance and then to satisfy him and make him accept, not under duress but with the facts presented to him, the appraisal made of his work at the end of a specified period. The impression that the subordinate will thus get about his assessment will have a very strong and everlasting impact on his self-esteem. In fact, it will not stop there. His future performance will carry the imprint of the declarations made on his performances from time to time. When treated in this manner, there will arise an inner desire in him to improve his working habits.

In most of our universities, if the work is uniformally "average", an employee receives no intimation. It is only the so-called adverse entries in the confidential report which are communicated to him. An "Average" grading is not considered to be an adverse entry in the CR. It will be agreed that if any reasonable efficiency is to be maintained in our offices, a person with "average" performance needs to be told that he must improve himself in order to be counted among the efficient workers of the university and to earn promotion on merit basis.

Though it may not be agreed to readily, the fact remains that statistically speaking half of the employees are "average" or "below average" in their overall performance if they are rated *sincerely*. When the human resources are of such low calibre, no department can function with reasonable efficiency.

Unless, therefore, there is a positive system of reward, it is not possible to have the people motivated to hard work and make them realise that they must learn to do their work and various methods rules as aids for doing their jobs accurately and swiftly. The system must isolate duds and incompetent workers. They should not be exposed out of revenge and left at that. In fact all-out efforts should be made at the university level to help them to catch up with their other colleagues who are on the other side of the battlefield, fighting as successful victors against administrative inefficiency or corruption. ☐

Teacher Productivity & Academic Standards

R. Dwarakinath*

B. V. Venkata Rao**

Earlier attempts at improvement of academic standards

There is a vast volume of literature developed in the years after independence on improvement of our educational system so as to be socially relevant. Relevance in the context of a vibrant, dynamic, forward-looking society includes accent on generation of knowledge and value system of immediate significance to meet the day to day problems of the country as also to meet the long term requirements in nation building process.

If we look at the several documents produced at enormous national effort, including Radhakrishnan and Kothari Commission Reports on University Education, the emphasis has largely been on improvement of certain facilities in terms of larger financial allocation for buildings, teachers, salaries, equipment, organisational and functional autonomy and the like. The UGC report on standard of university education no doubt elaborates on maintenance of academic standards as applied to admission, courses of study both at the undergraduate and postgraduate levels including research, particularly, at the postgraduate stage, medium of instruction, examination reform, organisation and administration of colleges and universities and accreditation mechanism to contain mushroom growth of colleges and universities.

The Kothari Commission Report in its 36 appendices has sought to assemble extensive data on student enrolment, curricular content as well as machinery to formulate the same, the periodic back and forth excercise on the duration of instruction like two-year Intermediate and two-year Degree, one year PUC and three-year Degree, admission qualifications for various degree programmes and the rigours of examination all of which are intended to contribute to improvement of quality of the products going out of the portals of Universities and Colleges.

Teacher building

As for the teacher component of academic standards, the thrust appears to have been mostly directed towards raising of the status of teachers through economic and social benefits like higher pay-scales in accordance with UGC periodic revisions, promotional prospects, salaries in relation to cost of living, welfare services, conditions of work, including permission to accept consultancy and part-time work to augment their incomes and such other matters. It has also been conceded that teachers could organise themselves to promote their professional and service interests.

While the recommendations to acquire an economic and social status for the teacher is unexceptionable, the accent on responsibilities on the part of teachers and students in the renovation of higher education in the country has been referred to just in passing as could be seen by the statement "If we may say so as a challenge to the conscience of University men and women and we trust it will be taken up in all seriousness". This manner of thinking is in consonance with the traditional veneration in which a teacher is held in Indian way of life. He is in reality considered to be Brahma, Vishnu, Mahesware and ultimately Para brahma as conveyed in the prayer we enchant everyday to salute the teachers, viz., *Guru Brahma, Guru Vishnu, Gurudevo Maheswara, Guru Sakshāt Parabrahma, Tasmai Sri Gurudev Namaha.*

Even as late as 1941, the celebrated Administrator-Statesman Sir Mirza M. Ismail in his convocation address to Jaipur University said "select first class men, give them good treatment and leave them alone and all will be well with the Universities". Naturally, such expectation was in the context of the self sacrificing and unflinching dedication of teachers to learning and teaching in the larger good of society. The Kothari Commission is not firm on this point. It recognises the declining educational standards and ascribes them to such causes as physical disabilities, arising out of economic and sociological background of students who enter the Universities, and hesitatingly concedes the fact that the academic excellence, taken, all in all is confined to minority of teachers and students who have to keep it alive against downward pressure of discouraging circumstances. The report attributes the malady to the hang over of the pre-independence colonial policy of lack of interest in training young Indians for top leadership positions as they were meant exclusively for the British personnel, and our university trained men were meant for subordinate and secondary cadres, needing no rank calibre. But the fact remains that putting the teacher in the centre of focus in the educational system, creating more facilities, elevation of his status and improvement of salary-scales have not in themselves automatically resulted in better educational products.

Elite institutions

In order to overcome this situation in the context of scarce resources and acutely scarce top-class talent in the country, a vigorous programme of investing attention on selected institutions to provide first-rate postgraduate instruction comparable to that in educationally advanced nations was suggested. The result is the Delhi University, Jawaharlal Nehru University, centrally administered University level Institutions like network of IITs, centres of excellence in specialised areas in certain old universities and the newly started Agricultural Uni-

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**Editor, University of Agricultural Sciences versities on the model of Land Grant Colleges of America, established in close foreign collaboration. These have been functioning over the past two decades, and though many of them did start well, have currently deviated from their founding objectives and standards, and possibly are no better than the multitude of other universities with no relevance to either social or economic lift of the region in which they are located lift them from their mediocre operations to become positive dynamic instruments of leadership for national emancipation.

Many universities are staffed with persons with impressive credentials for being thereunder the UGC sets of formal standards for recruitment. To that extent, it is all exceedingly fine. But, in terms of delivering goods namely, good teaching, standard research and its effective outflow to serve as a base for productive technology either in industry or in agriculture it may not be wrong to say that their performance needs improvement.

Need for a new look into the promotion of academic standards

It is time, we think of ways and means of continuously monitoring the productivity of the universities in relation to the specific objectives set before them.

It is not that we have no such mechanisms in operation at present. The UGC visiting teams are charged with responsibility of looking into the working of the institutions before they recommend annual allocation of grants. There are accreditation committees which have a say on staff recruitment policies. All this has been reduced to more or less formal annual features, unable to exert beneficial influence on the occasional deteriorating trends in University functioning.

This paper presents an attempt initiated by the University of Agricultural Sciences, Bangalore to prepare an inventory of accomplishments of the academic staff so as to provide an opportunity for every individual to look back, and state on his own, what he or she has been able to do in the past 10-15 years after the individual's entry into the university.

The UAS was established in pursuance of Act 22 of 1963 and started functioning from October 1, 1965 with the transfer of colleges of Agriculture at Hebbal, Bangalore and Dharwad and the Veterinary College at Hebbal along-with 35 Research Stations located in different parts of the State and 45 Schemes under the sponsorship of the ICAR and other agencies. The Marine Products Processing Centre was transferred later. The objectives and responsibilities as adumbrated in the Act and Statutes provide for higher education in the area of agriculture in its broadest sense, expansion of horizons of knowledge through systematic research and transmission or extension of the same to the rural and urban people for practical adoption.

In pursuance of the above goals set before the University, the teaching, research and extension education setup was thoroughly restructured, including initiation of activities in newer areas like, fisheries, home science, horticulture, agricultural marketing and cooperation, agricultural engineering forestry, sericulture and dairying. In the past over 14 years, the university could legitimately claim its share in the substantial onward march of agriculture in the State.

UAS has qualified staff

In order to implement the stupendous task, the university has endeavoured to induct highly qualified and competent staff in the various specialised disciplines.

As for teaching, there has been complete change over from the traditional annual examination-oriented pattern to teacher-centred internal evaluation system. The university has been able to produce sizeable number of qualified young men and women including well over 600 postgraduates of whom more than 60 are Ph.Ds. In the matter of research, several new high production crop and animal strains enriching the economic condition of the farmers, have been evolved. Innovative extension education programmes, including systematic training support to field functionaries of the State Development Departments like agriculture, horticulture, animal husbandry, and fisheries have been under way. These are certainly the result of the radical recruitment policies and procedures adopted by the UAS after its inception in 1965.

Evaluation of individualwise accomplishments

The total number of staff recruited in this period of the rank of assistant professors and above easily exceeds 500. It was felt that an appraisal of their individual accomplishments as against overall institutional contribution would help in understanding the productive efficiency of the new system of direct recruitment over the traditional promotional filling up of positions by seniority-cum-merit in vogue earlier. Such as appraisal would also help categorisation of workers into higher, medium and below the mark groups. It is believed that such an appraisal would provide opportunities for improvement of those who are in the lower brackets of productivity and materially upgrade the total academic output.

A teacher in an Agricultural university unlike his counterpart in the traditional universities is obligated to simultaneously engage himself in teaching, research and extension activities in his individual area of specialisation. This philosophy of integration of these triple functions, is basic to the concept of service-oriented functional institutions such as these, charged with the responsibility of all round emancipation of rural and urban common people.

In order to elicit functionwise contribution of individual teachers, a proforma (Appendix—I) was evolved and it is expected to provide a broad spectra of total activity of a teacher in teaching, research and extension including associated academic contributions. Information was sought to be obtained from teachers at all levels not excluding the Heads of Institutions and other Academic Administrators since it was felt that they would lose title to academic leadership, the moment they lost their interest in teaching which includes research and extension.

The response received so far amounts to about 25 per cent. It is expected that further persuasion may improve matters and we may get sufficient material for a meaningful analysis of the problem. The strength of teaching staff in the UAS in the cadre of Professors, Associate Professors and Assistant Professors is 82, 158 and 413 respectively. To-date, the returns received are 22, 47 and 85 respectively in the above categories.

As a preliminary effort, an analysis of returns from the category of Professors has been done by assigning points for various categories of work mentioned in the proforma (Appendix-I), and the data is presented in Appendix-II. The exercise is of a very tentative nature and it would not be meaningful to draw conclusions for generalisation. However, the approach of providing a teacher a *periodical opportunity* once in 5 years for stock taking of the various facets of ones own work appears to be desirable. It also points out to the possibility of alerting the University and the college teachers to their academic and social obligations and thus lay the foundation for a stronger and purposeful University community.

Appendix—I

INVENTORY OF ACADEMIC ACCOMPLISHMENTS OF UAS STAFF

1. Name and Present Designation :
2. Assignments held before joining the UAS :
3. Posts held in the University with duration :
4. Teaching, Research and Extension Activities from 1-10-1965 :
    - (a) **Teaching**
        - (i) **Courses offered from 1965-66 to date**: Year; Title of the Course; Credits;
        - (ii) Postgraduate guidance with title of theses produced.
        - (iii) Innovations introduced in Theory and or Practical Instruction.
    - (b) **Research**
        - (i) Area or areas of specialisation :
        - (ii) Papers published—list may be appended as per MJAS format classified according to specialisation stated above:

          Note : Papers presented at Seminars, Conferences, Workshops etc., may be indicated separately.
        - (iii) Bulletins & Books published.
        - (iv) A brief 100-word write-up on the impact of their research either on advance of knowledge or its practical significance as relevant to agriculture and rural development.
    - (c) **Extension**

      Whole time extension workers may indicate the projects they were involved in and the thrust they had on production programmes. Others may indicate their specific participation in textension activities, including participation in training programmes.
5. **Academic distinctions**
    - (i) Membership of professional bodies including the office they held. They may also *indicate activities such as membership* of visiting and Review Teams.
    - (ii) Specific recognition such as Awards:
    - (iii) They may state the names of technical journals they are obtaining :
6. General and popular Science writing—list of articles may be appended.
7. Intellectual excellence—a note on academic activities which have helped them and incidentally the UAS to become known to the general public :
8. Any other information:

(SIGNATURE)

Appendix-II

PRODUCTIVITY OF UAS PROFESSORS

Teacher	Year of joining UAS	Course offered Credit Hr.	P.G. Guidance	Innovative theory & Pract.	Papers published	Papers *presented at* Symposium.	Bulletins & Books	Book Reviews	100 word write up on the impact of Research	Organisation of Symposium etc.	Membership of professional Bodies	Awards	Subscription to Journals	Ednl. or Science writing	Intellectucal Excellence	Credit for non-teaching responsibility	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
P_1	1971	62	2	—	20	3	—	6	3	1	5	—	2	1	—	24	125
P_2	1967	120	3	2	13	6	5	—	—	2.5	8	—	2	1	—	36	189
P_3	1970	54	10	—	19	9	13	8	4	3	8	—	5	12	—	135	280
P_4	1965	133	14	1	54	31	13	18	4	5	12	—	5	105	3	210	608
P_5	1966	107	8	2	17	7	3	—	3	2	11	—	5	—	—	—	165
P_6	1965	167	25	3	14	6	5	—	3	3.5	—	—	—	1	—	36	264
P_7	1965	60	11	—	59	54	5	—	4	2	—	3	—	66	3	135+9	401
P_8	1965	74	11	0.5	22	3	2	—	2	2	—	2	1	5	2	55	182
P_9	1969	160	13	—	33	12	—	2	3	4	—	6	—	3	3	12	251
P_{10}	1965	9	4	1	47	15	2	—	3	—	—	—	—	—	—	12	93
P_{11}	1965	129	3	1.5	13	—	—	—	3	—	—	—	—	—	—	42	192
P_{12}	1965	276	26	1.5	27	32	1	4	3	3	4	—	4	2	25	24	435
P_{13}	1967	173	2	1	10	6	1	—	3	5	—	2	8	1	1	12	225
P_{14}	1970	144	—	1	8	14	2	8	3	2	4	0.5	6	6	—	90	289
P_{15}	1974	190	16	—	65	1	—	—	3	3	4	—	—	5	—	15	302
P_{16}	1967	9	2	2	94	6	8	—	4	4	—	2	7	38	4	180	360
P_{17}	1965	131	6	0.5	40	3	3.0	—	5	25	4	1	4	3	—	12	227
P_{18}	1966	27	2	1	19	6	—	—	3	4	25	3	—	1	—	60	151
P_{19}	1965	155	—	8	1	19	6	—	—	3	25	3	—	1	—	9	230
P_{20}	1970	78	—	6	0	24	6	—	0	3	4	5	—	4	4	165	289
P_{21}	1968	15	—	20	1.5	39	2	2	0	4.5	3	4	2	2	7	165	268
P_{22}	1965	27	1	1	1	12	2	2	3	3	4	2	2	7	—	135	202

Note

(i) 1 Point is allotted for each Cr. hr. of teaching (ii) P.G. Guidance—1 point for each thesis, (iii) Innovation in teaching upto 2 points, (iv) Papers published/presented/Book/Bulletin—1 point each, (v) Writeup on the impact of research work—upto 5 points, (vi) Extension work of teachers upto 5 points, (vii) Awards—1 point for each, (viii) Membership of Professional bodies—1 point for each, (ix) Tech. Journal subscribed—1 point for each, (x) Popular Science writing—1 point, for each article, (xi) Whole time, Res./Extn./Admn. responsibilities including editing—15 points per year, Head of Department is given 3 points per year (Column 17).

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Environmental Pollution—A Constraint to Development

S. S. Solanki*

There is strong relationship between nature, environment and society. The development of a society depends upon the environment and its development operates within an "eco-system". The evidence of urban slums shows that if the people are living in an ugly environment, not only their physical and mental capabilities and behaviour will degenerate but also will lead to the evolution of an ugly society. Therefore, there is an urgent need for considerable attention to be paid to understand all aspects of our surroundings in totality. In the past, little efforts have been made in this direction. Only recently, most of the countries are alarmed by the problems arising from pollution. The environmental deterioration through increased industrialisation and urbanisation earlier restricted to many highly developed and industrialised countries, is spreading in developing countries too. Ecologists are yet to provide a satisfactory solution to the management of environment.

"The limits to growth" was the result of the project on the predicament of mankind, sponsored by the Club of Rome in 1971; The report concluded that :

1. "If the present growth trends (exponential) in world population, industrialisational, food production and resources depletion continue unchanged, the limits to growth on this planet will be reached within the next one hundred years. The most probable result will be a rather sudden and uncontrolable decline in both population and industrial capacity.
2. It is possible to alter these growth trends and to establish a condition of ecological and economic stability that is a sustainable into the future. The state of global equilibrium could be designed so that the basic material needs of each person on earth are satisfied and each person has an equal opportunity to realise his individual potential.
3. If the world's people decide to strive for this second outcome rather than the first, the sooner they begin working to attain it, the greater will be their chances of success".

I. URBAN POLLUTION

After independence, India has been planning the development based on western model. Industrialisation and urbanisation are the two main themes of such a development. They are also the major constituents contributing to the environmental pollution.

(1) Industrialisation

India being a developing country, has started with its industrialisation programme only 30 years ago. Problems of environment pollution due to industrialisation are not acute at present as is evident from the data given in Table-I (given on page 305).

However, the rate at which we are setting up the industries, if adequate attention is not paid to the planning of industries in the sense of siting locations, use of raw materials and choice of technology, right now, it might lead to the concentration of industries in a few pockets, causing depletion and pollution of natural resources of air, water and land. It is also evident from the experience of the developed nations that, it is an herculean task and costly affair to avert the disaster of Industrial Pollution. It is, therefore, desirable for developing countries to plan carefully their industrialisation programmes from the beginning itself. In case of molasses distillaries the BOD is as high as 30,000 to 70,000. In addition, the effluents contain certain *chemicals of calcium, potash, sodium salts,* iron and acid solubles which make the environment unfit for fish culture. The water pollutants from steel industry vary from more rise in temperature of water to toxic chemicals. These are, tar, sulphuric acid, phenol, cyanides, hydrogen sulphide, bansol, thiocyanates, thiosulphates etc. Suspended and colloidal solids emanate in this industry by either washing the raw materials or products or scrubbing the dust and gases with water.

The major effects are :

(a) Toxicity to acquatic life;
(b) lowering of dissolved oxygen in the receiving water course;
(c) deposition of suspended matter on the bed of receiving water course;
(d) causing taste and odour problems in receiving water;
(e) coal tar, choking pipes and waste treatment appurtences;
(f) raising the temperature of the receiving water; and
(g) floating of oils and grease of water leading to ugly oil slicks and poor aesthetics.

Types of pollutants

The major pollutants are of two types. First group, includes major combustion products like carbon monoxide, carbon-dioxide, oxides of nitrogen, oxides of sulpher and hydrocarbons. These

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pollutants relatively have short half lives. Second group of pollutants are those which have longer half-lives such as pesticides, heavy metals and a wide variety of ever changing chemicals emitted by high technology industries which are small in quantities but often highly toxic in nature.

(2) Urbanisation

The urban region occupy about 0.3 per cent of world's land area and has about 40 per cent of world's population. In India about 109 million people live in big cities. Out of which 35 to 42 million live in slums and in transitional settlements. At the present rate of growth it is estimated that the total number of people living in cities will be 278 million while those in slums will be 72.5 million by 2001 A. D. Further the condition in urban areas in India has been aggravated due to lack of basic amenities, as, only 57 per cent of Indian towns are provided with water supply serving little more than 80 per cent of population and hardly 7 per cent of Indian towns are provided with sewerage facilities serving only 38 per cent of population. In addition, the slum squatters further pollute the environment. With the result, a large number of people suffer from water borne and air borne diseases.

Another important factor which is adding to the environmental problem is that the cities are not in continuance with eco-system. They lack sufficient green plants to support the human and animal population. In order to survive, they depend on rural areas outside their boundaries, sometimes ranging over the entire world. Besides food, they import fresh air, water, raw materials and energy resources. Simultaneously, they must export their solids, liquids and gaseous waste products to outside areas.

The problem of air pollution is also signalling an alarm in cities. In Ahmedabad, dust fall on the average is 196 tons/sq. miles/ month, and the figures for Delhi and Kanpur area 106 and 114 respectively. Thus the suspended particles are above the permissible level. It is also said that carbon monoxide level of Calcutta is higher than that of New York and London. In Delhi, Indraprastha thermal power station discharges over 60 tons of sulphur dioxide and 45 tons of soot per day. Carbon dioxide effects the heat balance of atmosphere resulting in the increase of atmospheric temperature. Carbon monoxide effects on central nervous system. Sulphur dioxide combines with moisture in the air to form sulphuric acid mist which can cause several deaths; such episodes have already occurred in London and Donora. Sulphur dioxide and nitrogen dioxide cause acute cases of fibrogenesis of intestinal tissues and lung cancer. Clouds of cool dust and flyash cause various thalmic and pulmonary diseases and reduce the transmission of solar radiation. In India every year, industry adds to the environment one million tons of hydro-carbons, five million tons of particulate matters and quarter million tons of hydrogen sulphide. All these show that we are marching to witness environmental disaster.

II. RURAL POLLUTION

(1) Life style

The problem of pollution is becoming serious in rural areas too. Although ample sunlight, fresh air, clear streams, home grown food create a picture of robust, happy and healthy families, enough to attract many city dwellers to return to the soil, but the life in villages is exposed to hazards of air ladden with pollens, mould spores, dust, insecticides, contaminated drinking water and inadequate diets. In most parts of the world the farmers' diet is distressingly poor affecting their health adversely. With the result, they usually retire from active farm work at young age on account of ill health. Lack of education about health and cleanliness, lack of medical facilities, non-availability of proper drinking water, rapid growth of population, lack of sanitation facilities, ill-ventilated houses and rural life style are contributing to the rural pollution considerably.

(2) Agriculture

The most important factor which is contributing to the growing pollution is of the fact that agriculture is fast becoming an industry. About 80 percent of population is dependent upon agriculture for earning their living. The changes, that have taken place during the last 30 years indicate that the villages have progressed because of modernisation of agriculture. During the process of modernisation of agriculture two types of technologies have been used:

(a) land using technologies which increased production by bringing new land under production; and

(b) land conserving technologies which rely on achieving the production increase by applying non-land resources to the existing land base.

The environmental problems with land using technologies are primarily those associated with wind and water causing loss of habitat and erosion of soil. During the process, a substantial portion of soil is washed into the oceans or other water reservoirs causing damage to the rivers, lakes and other water reservoirs. It also transfers the phosphate fertilisers from fields to streams, lakes, reservoirs where it supports unwanted growth of acquatic plants.

The environmental problems associated with land conserving technologies are those resulting from the use of fertilisers, irrigation and pesticides. The use of chemicals fertilisers is slowly increasing. It is experienced that the plants do not use all fertilisers applied and a large amounts of unused fertilisers is leached down to ground water and add to environmental problems. The nitrogen fertilisers reach well waters causing nitrate pollution. Nitrate contaminated drinking water has been associated with blue baby disease encountered in several parts of the world.

Pesticides also cause unintended damage to plant and animal life, to human and even potential harm to the genetic stock of the race. In India the use of pesticides in agriculture on commercial scale was started in late forties and use has greatly increased. In 1961-62, 37,980 metric tons pesticide formulations were used which increased to 77509 metric tons in 1970-71. The increasing and continuous use of pesticides like DDT, eldrina and dicldrine etc. for plant protection and mosquito control, find way into the human body and cause a variety of diseases like cancer, lever damage, brain damage, and slow but painful death. The rural environment has to be protected from these toxic chemicals by gradually phasing them out and by adopting some biological measures for pest control. It is surprising that the insecticides which have been banned in America and Europe are still being imported in India. A chemical regarded unsafe to the environment anywhere on earth in unsafe for India, too. The introduction of tractors, harvesters, threshers may help to save labour but these may aggregate the problems of unemployment in rural area. Tractors ploughing may be almight for virgin lands but it may prove harmful in the long run, to land under cultivation for countries. It is due to the fact that ploughing by tractors turns down the surface fertile soil and brings the sterile deeper soil on the top. Thus land under mechanical ploughing may require more fertilisers for sustained yields.

Swamps and marshy land, soil erosion, deforestation are creating serious ecological imbalances and contributing factors to the problems of environmental pollution. In order to provide jobs, it is essential to create an industrial base in the rural area. At the same time, it is essential and desirable that while planning for the development of rural industries care should be taken that rural environment does not get polluted with undesirable effects of industries namely different kind of waste gaseous products, waste-water and soil pollutants.

(3) **Population**

The continuous and rapid growth of population has created major problems of rapid depletion of internal and external resources. Thus existing greater pressures on the environment, more dependence on continued rapid technological development to solve related problems and at the same time continued postponement of the solution of social problems. So long as the population growth continues these problems will increase thus forcing changes in present way of life. In the long run, population growth will be a singlemost important factor determining resources adequacy and environmental quality. Therefore, there is a need to check population growth. With increasing literacy rate and growing awareness about the advantages of small family, a decline in population is expected. However, some incentives for motivating people to adopt family planning measures like rebate or remission in land revenue or income tax, and the unmarried individuals, or issueless couples and couples following family planning measures should be given preferences in jobs and providing other amenities.

The control of pollution in both the urban and rural areas has to be tackled differently as the nature and content of pollutants are quite different in these areas. The urban area is largely the centre of industrial production and the environmental pollution is the result of adoption of large scale technologies especially the chemical based technologies. There could be several ways to either restrict or eliminate the pollution depending upon the development objectives. Technology assessment and development of appropriate technology could be given due consideration. In the rural areas pollution is largely due to lack of awareness of environmental education cultural practices and poverty and also due to widespread lack of basic amenities. Besides agriculture, the non-agricultural production should be encouraged to increase the income level of the poor people in the villages. Certain socio-political actions such as land reforms, capital loan, skill development etc. will facilitate to remove the structural poverty in the villages. All these will ultimately be reflected in the improvement of their quality of life.

The Government of India has already recognised the importance of environmental management and has taken some steps in this direction. India is participating in United Nation Environmental programmes which could help in promoting the application of the environmental management. It has also set up a Committee on Environment—Planning and Coordination. This attempts to coordinate and identify new areas of research and makes suggestions for legislation. A few important aspects being looked after by this Committee are :

(i) promotion of environmental and ecological research;

(ii) environmental project appraisal and guidelines for incorporating environmental consideration in development planning.

(iii) requirements for environmental management institutional support, legislation, education and publicity etc.

The CSIR has undertaken a number of projects in its laboratories to tackle the problems of environment; Indian Toxicological Research Centre (ITRC), Lucknow, has started research in biological evaluation of pesticides, evaluation of flora for pollution resistance, toxicity of industrial dusts, dyes and intermediate dyes, pesticides and health hazards in industries and mines. IIRC is also planning to organise a seminar on sugar industry and distilleries and pollution. Research on treatment of effluent of Leather Industry is also going on in Central Leather Research Institute (CLRI), Madras, National Environmental Engineering Research Institute (NEERI), Nagpur, is the most important among the laboratories concerned with the studies of environmental sciences. It has monitoring of air quality, industrial waste treatment, water treatment plants and their operation, solid waste management, rural sanitation project, defluridation of water etc. on its agenda. In addition, it has also planned environmental impact analysis studies in the country.

Another organisation whose contribution matters from the control of environmental pollution angle is the *Indian Standards Institution*. It has worked on the following aspects :

(i) Methods for measurement of air pollution (for details please see IS 5182).
(ii) Criteria for controlling pollution of marine coastal areas (IS 7967).
(iii) Methods for sampling and test for industrial effluents (IS 2488 Part I to Part-V).
(iv) Tolerance limits for
  (a) *industrial effluents* discharged into marine coastal areas (IS 7968)
  (b) *industrial effluents discharged on land for* irrigation purposes (IS 3307).
(v) Guide for *treatment* of effuents of various industry.
  (a) On sugar industry.
  (b) Pulp, paper and board industries.
  (c) Tanning industry.
  (d) Distillery effluents.
  (e) Electroplading.
  (f) Steel effluent.

At present, most of the environmental pollution control activities are based mostly on the imported know-how. These technologies have limitations such as empirical basis, equipment too costly and efficiency which could not be maintained for lack of skilled personnel *to attend to such sophistication.* It will also result in a continuous drain of foreign exchange.

Keeping this in view, it is at last becoming clear *that, only by the adoption and speedily implementation* of environment development policies can the real needs and legitimate demands of the world's poor be met and the longterm health of the natural system upon which we all depend will be safeguarded.

What is needed is the use of indigenous methods and technologies to preserve environment. It will not be out of place if the specific measures which Mrs. Indira Gandhi, the Prime Minister of India has suggested recently to the State Governments for preserving the environment are included here. These steps desire that the responsible forest officers having sense of duty and understanding relating to wild *life and eco-system should* be posted. Even the forest development corporation must take on war *footing plantation on hilly slopes catchment areas* and from where deforestation has taken place. A massive programme of *social, forestry should* be taken up to educate the village communities and also to create alternative raw materials for their requirements.

No doubt existing regulations and security arrangements are lacking important facts. These may be amended to bring into focus the necessity and urgency of a good and clean environment for development. The problem, though serious in magnitude can be remedied provided there is "will" to do the job. ☐

TABLE I

Profile of Characteristics of Effluents

Name of Industry	**pH**	**SOLIDS**			**BOD**
		Suspended solids	Volatile	Total	
1. Sugar*	4.6—7.1	220—800	400—2200	800—3500	1100—2000
2. **Tannery****					
(i) Soaking	7.5—8.0	2500—4000	—	8000—28000	1100—2500
(ii) Liming	*10.0—12.5*	*4500—6500*	—	*16000—45000*	*6000—9000*
(iii) Deliming	3.0—9.0	200—1200	—	1200—12000	1000—2000
(iv) *Vegetable Tanning*	5.0—6.8	5000—20000	—	8000—50000	6000—12000
(v) Pickling	2.9—4.0	600—6000	—	16000—42000	600—2200
(vi) Chrome Tanning	2.6—3.2	300—1000	—	2400—12000	800—1200
(vii) Composite (incld. washing)	7.5—10.0	1250—6000	—	10000—25000	2000—3000
3. **Paper Industry*****					
(i) Sulphate	6.9—9.8	580—2330	—	—	155—421
(ii) Sulphate	5.8—7.2	950—3140	—	—	150—430
(iii) Tissue	8.2—9.0	240—1145	—	—	65—265
(iv) Straw-board.	7.8—12.9	940—3040	—	—	660—3655

1. **IS***	4903	1968
2. **IS****	5183	1977
3. **IS*****	5061	1968

Tolerance limits prescribed in

	IS 3307	IS 7967	IS 7968
pH	5.5—9.0	6.5—8.5	5.5—9.0
BOD	500	5	100
Total Suspended Solids	—	—	100

CAMPUS NEWS

Jammu Organises Semester System Appreciation Programme

To create greater awareness about the objectives, mechanics, processes and procedures connected with the semester system proposed to be introduced in the university, the Jammu University organised a two-day "Semester System Appreciation Programme" for college teachers. Inaugurating the programme, Prof. S.C. Dube, Vice-Chancellor of the University strongly advocated the innovative stance. He said that in this overhaul of our academic programme and strategies, the well-measured and well considered steps were essential so that our well intentioned efforts might not meet a crash. Without being prisoners of traditional educational patterns we should also be careful not to transplant the foreign ideas and models in toto because Indian situation was different from other places. For the success of the semester system we have certain preconditions like promoting a genuine learning ethic, having self-contained semester courses divided logically into units and modules, educational technologies capable of achieving the objectives of education and the system of assessment which inspires faith and credibility.

Shri K.K. Gupta, Director of College Development Council, spelt out the role and function of the Council. Giving the objectives of the Appreciation Seminar he elaborated the inputs and infrastructures, imperatively required for the effective and efficacious implementation of the semester system.

Prof. V.R. Taneja, who was the Director of the Seminar, urged the faculty to build the necessary climate for serious and constructive thinking for implementing semester system so as to develop in them the necessary skills for restructuring the courses as well as for re-vitalising the teaching-learning modalities.

Five senior academics from each one of the colleges affiliated to the university participated. They had an opportunity for indepth understanding of the rationale and the superiority of the semester system over the traditional system. Three resource persons, one each from Jawaharlal Nehru University, Kashmir University and Kanpur University were also invited to give the benefit of their expertise and experience.

HAU's emphasis on biogas technology

A survey conducted by the Department of Microbiology and the Department of Extension Education of the Haryana Agricultural University has revealed that in view of petroleum crisis which necessitated development of alternate energy sources, the production of biogas from cattle waste has drawn much attention. India has a large amount of cattle waste which can be effectively utilised for the production of methane particularly in the rural areas. At present most of the cattle waste is burnt as fuel with complete loss of fertilizer value. Recycling through the biogas plants will not only save the valuable fertilizer but will also generate fuel for home consumption. In view of this significance, the university has intensified its research on biogas technology and the ICAR has also sanctioned a centre for microbiological research on biogas at the university.

UGC concession to weaker section

The University Grants Commission has decided to permit the universities and their affiliated, colleges to utilise a part of the library grant for the purchase of Braille typewriter, dictionary and cassette recorders for use by blind students. The Commission has also agreed to extend the time limit for the utilisation of grants already paid to colleges during the Vth Plan period for purchase of books, journals and scientific equipment.

The Commission has also decided that the condition of minimum enrolment of Scheduled Tribe students in degree classes may be revised to 1/3rd of the total enrolment.

Recent developments in molecular biology

Delivering the convocation address at the Osmania University, Hyderabad, Prof. V. Ramalingaswami, Director-General of the Indian Council of Medical Research and President of the Indian National Science Academy, said that India had to develop a whole range of skills in fundamental and applied biology to solve its health problems and speed up overall development. Referring to the enormous strides made in fundamental biology over the past two decades he said it was possible now to take the human genes apart, analyse them and incorporate them in the bacteria so that the bacteria can make the end products of gene action. These possibilities looked limitless at the moment heralding spectacular advances in the entire field of human disease by the new technology of Recombinant DNA.

Prof. Ramalingaswami added that the benefits of discoveries in molecular biology might hold out answers to the genesis of cancer, problems of ageing and the reasons for high blood pressure, heart attacks and strokes. Though Recombiant DNA technology was hardly seven years old, it had already been demonstrated that it was possible to reorder genetic material at will. He said that the benefits of genetic engineering were not necessarily confined to medical and health fields. Biotechnology was yet another major attraction which could be used for recycling agricultural and industrial wastes.

The Vice-Chancellor of the University, Prof. G. Ram Reddy, said that in order to promote research in areas which are of immediate relevance it had been decided to establish two centres—one for energy studies and another for pollution studies. These would be inter-disciplinary in character. Presenting the annual report, the Vice-Chancellor said the university had organised 22 extension lectures, 24 seminars and symposia and one international conference on South Asian languages and linguistics during the course of the year. He said that in addition to the PG courses already established at Godavari Khani, Bhiknoor and Kothagudem, it was proposed to start one more course at Zaheerabad in Medak district.

ICMR suggests guidelines for medical experiments

The Indian Council of Medical Research has criticised medical experiments on prisoners, children and mentally retarded patients. A set of guidelines prepared by it on the ethics of medical research on human beings says that research on prisoners should never be carried out as it is not only difficult to obtain informed voluntary consent from them but inducements offered to the prisoners for taking part in the trial (research) would make it unethical to include such persons as subjects in a research programme.

According to the guidelines the research on children and mentally retarded people should be carried out only after it has been established that the research on a new treatment could cure the patient and the clinical research being carried out would add more information about the condition or disease from which the patient is suffering. Voluntary consent must be obtained from the guardian or the next of kin of such a patient before conducting any experiment on him and if the patient has intervals when he is in possession of all his faculties, then his consent during such a period should also be obtained.

The guidelines have been prepared by a committee set up by the ICMR to help the Government formulate a national policy on the ethics of medical research on human beings. These have been approved by the Scientific Advisory Board of the ICMR and have already been sent to the Government for action. However, according to the ICMR, the Government is not obliged to accept the guidelines.

Prof. V. Ramalingaswami, Director-General of ICMR said in New Delhi that this was the first time that such a code of ethics had been prepared. So far the ethics of each experiment was left to the conscience of individual doctors or to the ethical committees, wherever they existed. He said as far as he knew only All-India Institute of Medical Sciences, New Delhi and the Postgraduate Medical Institute, Chandigarh had such committees.

Prof. Ramalingaswami said that the need to draw up a code of ethics arose following increasing concern almost everywhere in the world over the manner in which experiments on human beings were conducted. The guidelines were based on the principles contained in the 1964 World Medical Association declaration of Helsinki. The Committee which prepared the guidelines was set up in 1975 under the chairmanship of Dr. S.G. Gajendragadkar. However most of the work was done after it was reconstituted with Mr. Justice H.R. Khanna as its Chairman.

Prof. Ramalingaswami said that no drug should be used in an experiment unless it had been cleared by the Controller of Drugs. Any proposal for evaluation of drugs from traditional systems of medicine must be approved by the ethical committee of an institute.

London School of Economics plans more courses for overseas students

The London School of Economics and Political Science is expected to enrol more overseas students from this academic session. The Director of the School, Prof. Ralf Dahrendorf said that the school hoped to increase the proportion of overseas students from one-third to about forty per cent of the total student body during 1980-81. To attract more overseas student, the entry for the popular one-year general course had been doubled. Postgraduate diploma courses were also being introduced particularly for overseas students who would like to come for one year but who would find it difficult to complete an MSc in that time. So far the following new diplomas had been planned for the next session : accounting and finance; business studies; economics, econometrics; geography; international and comparative politics; logic and scientific method; social philosophy; operational research; management sciences and sociology. The largest number of overseas students in recent years have come from Asia.

Planning Commission appoints agro service task force

Dr. K. Kirpal Singh, Director, Food Technology, Processing and Marketing, Punjab Agricultural University, has been nominated as member of the Task Force set up by the Planning Commission, Government of India, on Agro Service Centres for the Sixth Five Year Plan.

The Task Force will assess services needed by the small and marginal farmers for crop production, animal husbandry and fisheries and also review marketing system for various commodities and suggest ways and means to increase returns to the farmers. It will further study crop losses at different stages and suggest organisational structure for various input services.

University of Malta renamed

The Old University, Malta, has ceased to exist with effect from the 28th of March, 1980 and a new university "The University of Malta" has been established. It was founded in 1592,raised to university status in 1769 and from 1937 to 1976 was called the Royal University of Malta.

In 1976, the Maltese Government created a New University out of the former Malta College of Arts, Science and Technology. The Government transferred to the New University many courses previously run by the original university and introduced a scheme of selection of students on a worker-student basis. The recent Act passed by the Government provides for radical changes in the tertiary education in Malta and the New University has been given all functions, property and other rights of the Old University together with the power to continue any instruction previously provided by that University and to take such steps and do such things as it may deem appropriate to wind up any outstanding affairs and liabilities of the said Old University.

Dr. Edwin Borg Constanzi was the Rector of the Old University from 1964 until the university ceased to exist. The present Rector Dr. D.H. Walwyn-James.

Abasama digital language

The Indian Institute of Technology, New Delhi, has agreed to extend institutional support for the development of Abasama Digital Language developed by Mr. Abasama. The language seeks to link all the languages of the world for direct telex, telecommunication, conversation, corespondence and translation by men or machines.

'Abasama' is a digital language with digits evaluated for root-part and grammar marker taking meaning as a constant. In brief it promises to provide a digital dictionary in all the languages with an alphabetical index without changing the digits.

ISM to organise course in Drilling Engineering

Under its Executive Development Programme, the Indian School of Mines, Dhanbad, would be conducting a course on Drilling Engineering from June 30 to July 12, 1980. The objective of the course is to search for minerals, underground water, mineral oil and laying foundation for dams and bridges. It is designed to help the Drilling Engineers to be abreast the technological advancements.

Further details with regard to course content, methodology, faculty, etc. may be had from the Registrar of the school.

Shri C.K. Jain, of the Department of Engineering & Mineral Machinery of the School will be the course coordinator.

Delhi to appoint information officer

The Executive Council of Delhi University has recommended the appointment of an Information Officer to help the Press and the public. The recommendation will be sent to the University Grants Commission and officials of the university hope that it will be accepted. This is the second time that such a recommendation has been made. In 1975, the Delhi University had advertised the post of an Information Officer but the salary offered was not enough to attract the right kind of people. This time the Executive Council has recommended a scale of Rs. 1100-1600 which is at par with that of the Deputy Registrar.

So far there has been no official spokesman of the university and by convention the Press is briefed by some senior officials.

MBA by correspondence

The University Grants Commission has approved the plan of the All-India Board of Management Studies for correspondence courses leading to the degree of Master of Business Administration. To start with the programme will be introduced in not more than three selected universities. The total number of candidates to be admitted initially will be two hundred. This will be in addition to the enrolment for the three-year correspondence course of Punjabi University, Patiala for M.B.A. which is open only to officers of the defence services.

The admission test for candidates will be similar to those held by the Indian Institutes of Management and some of the universities like Delhi, Bombay, and Panjab. The candidates will be expected to have work experience. The minimum duration of the programme will be three years. However, for those needing more time, modules will be developed on the basis of semester system to enable them to complete the programme within five years.

Legal literacy programme workshop

An All-India workshop on Legal Literacy in the context of National Adult Education Programme was held at Varanasi at the Law School of the Banaras Hindu University. Dr. L.M. Singhvi, President of the Supreme Court Bar Association while delivering the keynote address emphasised that the legal literacy was an integral part of adult education. Its objectives were simple, practical and urgent but the magnitude of its task was forbidingly massive as there was dearth of materials for dissemination of legal literacy. Dr. Singhvi added that the purpose of it was not to make every man a professional lawyer but to educate average citizens about their rights and obligations which they owed to the society. He stressed that every university should have its own legal literacy programme.

Dr. R.N. Saxena, Vice-Chancellor, Kashi Vidyapith inaugurated the workshop and Dr Hari Narain, Vice-Chancellor of the University emphasised that there was expliotation of average people because of his legal illiteracy.

Prof. L.R. Shah, Programme Adviser, Ministry of Education and Dr. M.L. Mehta, Dy. Secretary, UGC, were among those who participated in the deliberations of the workshop.

New building for NIS south centre

The National Institute of Sports will soon be starting the construction work for its Rs. 2.5 crore campus in Bangalore. The Centre would move to new campus on the outskirt of the city when the first phase of construction is completed within the next few months. Under the first phase a multipurpose gymnasium would be constructed for games such as badminton and table tennis. There would be a hostel for men, women and teaching staff.

Mr. Gurbax Singh, Deputy Director of the Centre said that in the first phase an eight-lane athletic track will be laid. This will later be converted into a Tartan track. There would be grounds for football and hockey, courts for volleyball, basketball, tennis, kho kho, kabbaddi and a cricket pitch. Due to lack of grounds and other facilities the Institute's south centre was not able to organise a number of coaching camps for national teams though climatic conditions in Bangalore were ideal.

Environmental course planned at Kanpur

A new course in environmental sciences will be introduced by Kanpur University in postgraduate classes from the next academic year. Dr. (Mrs) Hemlata Swarup, Vice-Chancellor of the university gave this information while participating in a seminar on pollution control held at Kanpur. She said that the introduction of the new course has the approval of the University Grants Commission she hoped that the students passing out after completing the new course would serve as consultants for affluent treatment in various industries and would check the pollution to a great extent. The university was keen to go ahead with its plans even if the State Government did not come out with adequate financial support.

B.Ed. by correspondence

The Syndicate of Andhra University has decided to start correspondence course in B.Ed. through the School of Correspondence Courses from the academic year 1980-81 for working teachers. This matter was also considered by the Board of Studies in Teaching Research. The Board approved the proposal.

UGC centres for science study

The University Grants Commission has set up two national centres in Rajasthan and Tamil Nadu at a cost of Rs. 20 lakhs for improvement of undergraduate science teaching. One of these centres, which are to serve as model points for the science improvement programme of the UGC, will be located in Rajasthan University and the other at Madurai University.

These centres will carry out, besides research and development work, curricular reforms and hold workshops for the benefit of teachers.

Eight such centres are planned to be opened by the Commission, two each for Physics, Chemistry, Mathematics and Biology. It is also proposed to have a national centre for production of teaching aids for higher education. These steps are a part of the college science improvement programme of the Commission which presently covers more than 175 colleges. The Commission spends about Rs. 3 crores a year on college science improvement programmes.

Research facilities in constituent colleges be to strengthened

Osmania University has decided to improve research facilities in its constituent colleges. Dr. G. Ram Reddy, Vice-Chancellor of the University, while inaugurating the silver jubilee celebrations of the Science College, Saifabad, said that research was confined only to Campus colleges. This was a wrong trend and should be rectified soon. He added that as

Classified Advt.

(*Continued on page 315*)

not less than 3 years of teaching experience at postgraduate level.

PREFERENCE WOULD BE GIVEN TO SC/ST CANDIDATES WHO ARE CONSIDERED FIT IN RESPECT OF LECTURERS:

The prescribed form of application and full details regarding qualifications and experience required can be got from the undersigned on requisition accompanied by (a) self addressed envelope with postage stamps to the value of Re. 1/- affixed thereon and (b) State Bank of India Challan for Rs. 5/- (Account No. 1) or Demand Draft for Rs. 5/- payable at Madurai drawn in favour of the REGISTRAR, MADURAI KAMARAJ UNIVERSITY, MADURAI-625021. The number of the notification should be quoted in the requisition i.e. No. 2/V/Advt/80.

The last date for receipt of filled in applications is **20-6-1980**. Applications received after the prescribed date will not be considered.

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part of strengthening of research, improvisation of buildings of the constituent colleges would be taken in a phased manner.

The Vice-Chancellor thanked the State Government for its decision to increase the grants to college libraries from the current financial year. This would help the colleges to develop their libraries considerably during the next three years.

Two new universities for Karnataka

Two new universities will be started in Karnataka from the coming academic session at Gulbarga and Mangalore. Gulbarga University will have its headquarters at Gulbarga with colleges at Bellary, Bider, Gulbarga and Raichur districts. Colleges in this area are affiliated to Karnatak University, Dharwar, at present.

Konaie will be the venue of Mangalore University which will cover colleges in south Kanara and Coorg. These are now affiliated to Mysore University. A Bill for the creation of these two universities making jurisdictional changes in the existing Karnatak and Mysore universities is under the consideration of the legislature.

The new academic session will see five universities functioning in Karnataka located in Bangalore, Mysore, Dharwar, Gulbarga and Konaie (Mangalore). It is stated that the jurisdiction of the Karnatak and Mysore Universities has become unwieldy. The proposal has been backed by committees appointed by Karnatak and Mysore universities as well as a Commission appointed by the State Government. The recurring expenditure for the establishment of the universities at Gulbarga and Mangalore will be Rs. 84.35 lakhs and Rs. 83.54 lakhs respectively. The non-recurring expenditure on each university is Rs. 320.5 lakhs. A provision of Rs. 45 lakhs has been made initially in the 1980-81 budget.

Corrigendum

The Senate of the Agra University at its meeting held on 2nd February, 1980 decided to withdraw the Ph.D. degree conferred on Shri Ranvir Singh for his topic "Mechanised Famine in Northern India".

The above thesis was included in Bibliography of Doctoral Dissertations 1976-77; Social Sciences and Humanities published by the Association of Indian Universities.

Training Programme in Financial Management

(Continued from page 295)

18. Model Budgeting for Universities
19. System of Financial Administration.

The participating finance officers themselves were called upon to present the system of financial administration in their universities which was followed by a discussion about the situation in this regard in other universities. This enabled the finance officers to compare and contrast different systems of financial administration prevalent in various universities in India and evaluate the effectiveness of each. There was also a panel-discussion on the role and functions of finance officers of universities which would have enabled the participants to look at their own roles and functions critically and understand what roles have been envisaged for them in the Acts and Statutes of the universities.

The process of budgeting adopted by the universities and the changes needed in it have attracted the attention of the *University Grants Commission* for some years in the past. In fact about five years ago the University Grants Commission has already circulated a model budget which were tried out by the National Institute of Educational Planning and Administration (National Staff College at that time) among some of the universities and at present most of the universities prepared their budgets in the model budget circulated by the University Grants Commission. Some universities have been able to improve upon the model budget by incorporating additional details regarding expenditure on university education.

It is, however, to be pointed out that no university in India has so far been able to go over to either performance budget or programme budgeting of any kind. This situation continues even though in some of the States in India the various Departments of the Government including Education Department have already moved over to performance budgeting. Therefore, one of the efforts in future to which we have to address ourselves is the task of ensuring that the budgets are prepared more meaningfully so as to enable interpretation of the actual financial situation of universities and evaluation of the academic programme alongside with the expenditure incurred on them.

Accounting is the pre-requisite in order to bring about a change in budgeting. This also received considerable amount of attention in the lecture-discussions.

While the process of improvement *in financial administration* remained as an objective which was sought after by the training programme, the improvement in the existing financial procedure also was kept in mind. For that purpose delegation and control in Indian universities were discussed in detail and the role of finance committee also received considerable amount of attention. Very often there is a under estimation of revenue and over estimation of expenditure in our universities. In order to avoid these situations there was discussion on revenue planning, monitoring and preparation and maintenance of accounts in the universities.

One of the important developments happening in the field of university administration is the application of managerial techniques. In keeping with this trend the possibility of applying a kind of planning, programming and budgeting system to universities was explored and there were lecture-discussions on the application of O & M Method through university administration.

The finance officers were divided into groups and they went into different aspects of the functioning of the finance officers in the universities and made recommendations to UGC, State Governments, and to Universities in order to improve the financial functioning. The following are among the more important recommendations arrived at by the finance officers.

1. Finance officer should always be associated with the planning activities going on in the universities and the planning offices should provide the necessary information to finance officers particularly for the preparation of budgets.
2. As regards the status of the finance officer it was agreed that he should not be subordinate to the Registrar and should work independently and directly under the control of the Vice-Chancellor.
3. The finance officer's functions extend to budgeting, accounting and collection of revenues and disbursement. He should, therefore, have a well equipped organisation under him to deal with such subjects. For example, (i) budget and annual accounts; (ii) payment of salary and allowances; (iii) cash unit, (iv) endowment and investment, etc. (v) provident fund; and (vi) other disbursements. In order that such functions may be properly discharged, it is desirable that a work study should be made so as to determine some norms for the staffing pattern for the common functions performed in the universities.
4. There should not be any separate cadre of office staff for finance branch but a system of inservice training followed by accounts examination would be desirable and the finance branch staffing from assistant onwards should be only from the staff who had qualified in that examination. There should be two separately standards of examinations for assistants and officers. Incentive should be provided to those who pass the prescribed examinations.
5. The staff working in the finance branch should be under the administrative control of the finance officer. Transfers from and to finance branch should be in consultation with the finance officer.
6. There should be proper procedural manual for laying down working procedures of the finance branch.
7. The finance officer should be competent to delegate powers prescribed for him to other officers with the approval of the Vice-Chancellor and subject to the provisions in the University Act and Statutes.
8. An attempt should be made to arrange periodical seminars at different levels in order that the common points may be discussed and a forum for exchange of ideas may be available to enable effective and efficient improvement. Such seminars may be at the state level. Similarly, there should be a system whereby the officers of the same university should meet periodically to discuss matters regarding functions of the department viz. finance department.
9. A research base study in order to apply modern techniques should be considered to enable bringing out innovative procedures.
10. The finance officer should not be relieved of the responsibility of being the custodian of the endowments in the form of immovable property of the university.
11. The finance officer should not execute contracts on behalf of the university but pre-scrutiny of such contracts by him may by made mandatory.
12. The finance officer should report directly to the Vice-Chancellor and should be independent of the Registrar.
13. The finance officer should invariably be invited to participate in the deliberations of the Syndicate/Executive Council and all agenda items having financial implications should be accompanied by his written advice, where finance officer feels it necessary before they come up for consideration of the Syndicate/Executive Council. The relevant part of minutes before issue should also be finalised in consultation with the finance officer.
14. The Central and State Governments may provide in the relevant Acts those instances in which the finance officer is over-ruled by either the Vice-Chancellor or the Syndicate/Executive Council are brought to the notice of the Chancellor.

Personal

1. **Prof. Amlan Datta has been appointed Vice-Chancellor of Visva Bharati.**
2. **Dr. A.P. Mehrotra has taken over as Vice-Chancellor of Avadh University.**
3. **Prof. D.D. Kosambi has been posthumously awarded the Hari Om Trust Prize of Rs. 10,000/- by the University Grants Commission for his distinguished work in the field of interaction between science and society.**

INDIAN INSTITUTE OF TECHNOLOGY
KANPUR
Advertisement No. 18/80

Applications are invited for the following posts in the Institute in the pay scales noted against each:

Professor: Rs 1500-60-1800-100-2000-125/2-2500.

Assistant Professor: Rs 1200-50-1300-60-1900.

Lecturer: Rs 700-40-1100-50-1600.

The Department of Chemistry and Civil Engineering are seeking individuals to fill up the teaching positions with ability and aptitude for teaching in undergraduates/post-graduate programmes, research and development in all branches of Chemistry, including inter-disciplinary areas associated with Chemistry, and research and development in any of the areas of specializations in Civil Engineering listed below. The number of positions available in each department are also indicated below:

Department of Chemistry

Number of positions: Five (likely to be eight). Professor/Assistant Professor/lecturer.

Department of Civil Engineering

Number of positions: Nine—Assistant Professor/Lecturer.

(a) **Engineering Geology**: Areas of specialisation: Application of Geosciences in Civil Engineering with experience in areas such as Computer applications in earth sciences; Modern techniques in petrographic and mineral analysis; Engineering geophysics; Hydrogeology.
Position: Lecturer

(b) **Environmental Engineering**
Assistant Professor: Area of specialisation: Experimental and field studies in air pollution, water quality modelling.
Lecturer: Area of specialisation: Environmental System.

(c) **Geotechnical Engineering**: Areas of specialisation: Experimental and (or) analytical studies in geotechnical engineering.
Position: Lecturer

(d) **Hydraulics and Water Resources Engineering**: Areas of specialisation: Surface water hydrology and water resources engineering and specialisation in Stochastic Hydrology, water resources systems analysis, Numerical methods.
Position: Lecturer

(e) **Structural Engineering**: Areas of specialisation: Probabilistic analysis and structural design.
Position: Lecturer

(f) **Surveying and Photogrammetry**: Areas of specialisation: Surveying and photogrammetry; Experience in the area of remote sensing is preferred.
Position: Lecturer

(g) **Transportation Systems Engineering**: Areas of specialisation: Urban and regional systems planning; Transportation economics.
Position: Lecturer

Candidate having special aptitude and experience in the areas of Civil Engineering Materials and Construction Planning and Management will be preferred.

QUALIFICATIONS AND EXPERIENCE FOR VARIOUS POSITIONS

PROFESSOR: Doctorate degree with good academic record and atleast eight years of professional experience of good quality outside the work for the degrees.

OR

M. Tech. with good academic record and at least fifteen years of industrial experience with brilliant record outside the work for the degree.

The candidates must have demonstrated ability in teaching and independence in research evidenced by significant contributions by way of publications of good quality in journals of repute or developmental projects works of merit in any one of the aforesaid areas of specialisations.

ASSISTANT PROFESSOR: Doctorate degree with good academic record and at least three years of professional experience outside the work for the degree.

OR

M.Tech. with good academic record and at least seven years of industrial experience outside the work for the degree.

The candidates must have demonstrated ability in teaching and independent research work as envisaged by adequate number of research publications of good quality in journals of repute or developmental work of merit in any one of the aforesaid areas of specialisations.

LECTURER: Doctorate degree with good academic record and adequate research experience resulting in research papers of good quality.

OR

M.Tech. with good academic record and atleast three years of teaching research/industrial experience with good record outside the work done for degrees.

The candidates must have ability for good teaching and independent research evidenced by adequate publications or developmental work in any one of the aforesaid areas of specialisations.

FOR ALL THESE POSITIONS BASIC DEGREE IN RESPECTIVE BRANCH IS REQUIRED EXCEPT IN THE AREA OF ENGINEERING GEOLOGY.

The Institute has well equipped laboratories and also Biosystems Laboratory, Laser Laboratory, besides central facilities. There is well established Computer Centre having DEC 10, IBM 1800, PDP-1 Systems with interactive graphic terminals and TDC-316, and group of experienced programmers. The Institute has a well stocked library with more than 2,17,000 volumes and 1800 periodicals. The Central facilities included 2 Me Van de Graaff accelerator, 4096 multi-channel analyser and other radiation detection equipment liquid nitrogen and spectrometers, glass blowing shop, Crystal growth facility, central instrumentation laboratory, precision machine shop, electron micro-scope besides a large workshop for fabrication of specialised research apparatus.

There is an Advanced Centre for Electronic Systems in the Institute attached to the Department of Electrical Engineering. The Centre carries out unclassified research and development work in the areas such as Communication, Radar, Signal and Image processing and instrumentation Systems sponsored by Government agencies and industry. Besides, an Advanced Centre for Materials Science has been established recently at the Institute by the Government of India to undertake research in the frontier of development of materials of national importance.

In the category of Lecturer one post in each department will be reserved for SC/ST candidate. In the event of non-availability of suitable SC/ST candidate, the reserved posts would be treated as dereserved.

Applications from within India must be made on prescribed form obtainable free of charge from the Registrar of the Institute by sending a self-addressed unstamped envelope of 25 cm × 10 cm size. Application should be accompanied by a postal order for Rs 7.50 (Rs 1.87 for SC/ST candidates).

Applicants who are employed in a *Government/Semi Government organisation of Institutions* should send their applications through proper channel, else they will be required to produce a 'No Objection' Certificate from their employers at the time of interview.

Applicants from abroad may apply on plain paper enclosing a complete biodata and names of three referees from whom reference letters may be obtained.

Applications should reach the Registrar, Indian Institute of Technology, IIT Post Office, Kanpur-208016, U.P. (India) on or before **June 30, 1980.**

MADURAI KAMARAJ UNIVERSITY

PALKALAINAGAR MADURAI-625021

Notification No. 1/V/Advt/80

Applications in the prescribed form are invited for the following posts in the University:

School of Tamil Studies & Indian Languages
1. One Professor of Tamil
2. One Professor of Journalism
3. One Reader in Tamil

School of Biological Sciences
1. One Reader in Cell Biology
2. One Reader in Plant Genetics
3. One Lecturer in Microbiology
4. One Lecturer in Immunobiology
5. One Lecturer in Plant Physiology

School of Mathematics
1. One Professor of Mathematics (Statistics)
2. One Lecturer in Mathematics

School of Social Sciences
1. One Professor of Sociology
2. One Reader in Political Science
3. One Reader in Econometrics

Department of Geography
1. One Professor of Human Geography.
2. One Reader in Geography

Institute of Correspondence Course & Continuing Education
1. Two Lecturers in Mathematics

Scales of Pay

Professor—Rs. 1500-60-1800-100-2000-125/2500.
Reader—Rs. 1200-50-1300-60-1900.
Lecturer—Rs. 700-40-1100-50-1600.

GENERAL QUALIFICATIONS

Professor: A first or high second class Master's degree and a Ph.D. degree in the relevant subject with not less than 10 years of teaching (P.G. courses) and/or research experience including guiding research at doctoral level of which atleast 3 years must be of a Reader or a position equivalent thereto.

Reader: A first or high second class Master's degree and a Ph.D. degree in the relevant subject with not less than 5 years of teaching (P.G. courses) and/or research experience of which atleast 3 years must be of a Lecturer or a position equivalent thereto.

Lecturer: Consistently good academic record with a first or high second class Master's degree and a Ph.D. degree in the relevant subject with not less than 3 years of teaching experience at P.G. level.

PREFERENCE would be given to Scheduled Caste/Scheduled Tribe candidates who are considered fit in respect of LECTURERS.

Appointment of persons on deputation will also be considered, if the candidates are found suitable and the employer is agreeable to spare the services.

The prescribed form of application and full details regarding qualifications and experience required can be got from the undersigned on requisition accompanied by (1) a self addressed envelope with postage stamps to the value of Re. 1/- 10 p affixed thereon and (2) State Bank of India Challan for Rs. 5/- (Account No. 1) or Demand Draft for Rs. 5/- payable at Madurai drawn in favour of the **Registrar, Madurai Kamaraj University, Madurai-625021**; **The number of the notification should be quoted in the requisition i.e. No. 1/V/Advt/80.**

The last date for receipt of filled in applications is **10-6-1980**. Applications received after the due date will not be considered.

B. Murugan
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SRI VENKATESWARA UNIVERSITY

TIRUPATI

Advertisement No. EII-2/1980 (2) dated 15-5-1980

Applications are invited in the prescribed form for the following posts in the University service on or before **23-6-1980**.

S.No. 1	Post 2	No. of posts 3
	I. TEACHING	
1.	**State Bank of India Chair** Professor in 'Rural Banking & Development of Rayalaseema'	One
2.	**A.P. State Electricity Board Chair** Professor in 'Power Systems Engineering'	One
3.	**T.T.D. Chairs**	
	(a) (i) Professor in Ancient Indian History, Culture & Archaeology	One
	(ii) Reader in Ancient Indian History, Culture & Archaeology	One
	(iii) Lecturers in Ancient Indian History, Culture & Archaeology	Two
	(b) (i) Reader in Epigraphy	One
	(ii) Lecturer in Epigraphy	One
	(c) (i) Professor of 'Comparative Hindu Religion' 'inclusive of 'Sri Venkatoswara Studies'	One
	(d) **Annamacharya Chair** Reader	One
	S.V.U. COLLEGE OF ARTS & SCIENCES : TIRUPATI.	
4.	Lecturer in Physics	One
5.	Lecturer in Zoology	One
	S.V.U. COLLEGE OF ENGINEERING TIRUPATI	
6.	Lecturer in Chemistry	One
	Scale of pay 1. **Professor**: Rs. 1500-60-1800-100-2000-125/2-2500. 2. **Reader** : Rs. 1200-50-1300-60-1900 3. **Lecturer**: Rs. 700-40-1100-50-1600	
	II. NON-TEACHING	
7.	(a) Co-Ordinator, (b) Project Officer and (c) Typist/Accountant Clerk in National Adult Education Programme in Adult Education Department in the scale of Rs. 1100-50-1600; Rs. 700-70-900-EB-40-1100-50-1300; and Rs. 310-14-380-15-560, respectively.	One each (For three years only)
8.	Micro Analyst Rs. 530-30-770-35-1050	One
9.	Research Assistant (MSS Library Section) Rs. 480-25-780-30-900	(Reserved for BC-A)
10.	Garden Supervisor Rs. 410-18-590-20-750	One
11.	Library Assistant Rs. 320-14-460-15-580	One (Reserved for S.T.)
12.	U.D. Stenographers Rs. 310-14-380-15-560 Plus Stenographers allowances	Two (Reserved for S.C.)
13.	Secondary Grade Assistant Rs. 250-10-430	One (Reserved for S.T.)
14.	Foreman Rs. 310-14-380-15-560	Two (One Reserved for S.C.)
15.	Computor Rs. 240-10-420.	One (Temp.)

All the above posts carry D.A. etc., at the University rates. There will be reservation for S.C./S.T./B.C. candidates for 'Lecturers' posts according to U.G.C./State Government guidelines.

The prescribed application form and other particulars can be had from the **Registrar**, Sri Venkateswara University, Tirupati-517502, Andhra Pradesh, on payment of Rs. 5/- in the case of Teaching posts and Rs. 2/- in the case of Non-Teaching posts, either by Andhra Bank Challan or State Bank of India Chalan or Crossed *Indian Postal Orders of the said value drawn in favour of the Registrar, Sri Venkateswara University, Triupati-517502, AndhraPradesh (*Payable at the S.VU. Campus Postal Office only).

The University reserves to itself the right to increase or decrease the number of posts, to fill or not to fill any or all of the above posts and to relax the qualifications when candidates with prescribed qualifications are not available or not found suitable, to appoint candidates to posts lower than the ones for which they have applied and to consider and appoint persons who may not have applied.

Candidates called for interview have to attend at their own expenses.

REGISTRAR

RAVISHANKAR UNIVERSITY RAIPUR

Employment Notification No. 2/80

No. 2526/Admn./5/1980, dated the 23rd May, 1980.

Applications are invited for appointment to the following posts in the University Teaching Departments :

S.No.	Name of Posts	No. of Posts
I	**Professor**	
	Psychology	One
II	**Lecturer**	
	Linguistics	One

2. The post of Lecturer in Linguistics is temporary but likely to continue.

3. **Scales of Pay**

Professor Rs 1500-60-1800-100-2000-125-2500/-

Lecturer Rs 700-40-1100-50-1600/-

4. ***Qualifications for Professor***

(a) A Doctor's degree or published work of an equivalent high standard; and

(b) (i) A second class Master's degree in a relevant subject with atleast 50% marks (Grade B in the seven point scale) or an equivalent degree of a foreign university; and (*while taking into account* the marks/grade, the marks/grade obtained in internal assessment, if any, shall be excluded), (ii) atleast 50% marks at the Bachelor's degree exam., on the basis of which division is awarded at the degree level by the University and (iii) Atleast 50% marks at the Higher Secondary/Intermediate/Pre-University examination, as the case may be ;

(c) Experience : (i) Atleast 10 years experience of teaching the subject to the post-graduate classes, (ii) evidence of candidate having been awarded a doctor's degree under his supervision.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident from *his thesis or from his published* research work is of a very high standard, it may relax any of the qualifications prescribed in (b) above;

5. **Qualifications for Lecturer** -

(a) and (b) same as for Professors

Having regard to the need for developing inter-disciplinary programmes the degree in (a) and (b) (i) may be in relevant subjects.

Provided that if the Selection Committee is of the view that the research work of a candidate as evident either from his thesis or from his published work is of very high standard it may relax any of the qualifications prescribed in (b)

Provided further that if a candidate possessing a Doctor's degree or equivalent research work is not available *or is not considered suitable.* a person from the following categories may be appointed :

Category : A

(i) A 2nd class Master's degree in a relevant subject with atleast 50% marks (b in the seven point scale) (while taking into account the marks/grade, the marks/grade obtained in internal assessment, if any, shall be excluded); and (*ii*) 2 years *experience* of research work or practical experience in research laboratory/research organisation ; (iii) atleast 50% marks at the *Bachelor's* degree exam, on the basis of which division is awarded at the degree level by the University and (iv) atleast 50% marks at the higher Secondary/ *Intermediate/Pre-University Examination* as the case may be.

OR

Category :B

(i) A Master's degree with first class or grade 'A' in the relevant subject; (b) atleast 50% marks at the Bachelor's degree examination on the basis of which division is awarded by the University; and (iii) atleast 50% marks at the Higher Secondary/Intermediate/Pre-University Examination as the case may be.

Provided *further that if* a candidate from the above two categories is selected, he will have to obtain a Doctor's degree M. Phil. degree or *have to his credit published* research work of equivalent standard within 5 years of his appointment, failing which he will not earn future increments until he fulfils these requirements.

6. The requirement regarding minimum percentage of marks shall be relaxed upto 5% in the case of Scheduled Castes/Scheduled Tribes candidates. Fifteen per cent of the posts in each department are reserved for *the candidates belonging to Scheduled* Castes and 18% for the Scheduled Tribes candidates.

7. **General** : (i) Contributory Provident Fund, dearness and other allowances and benefits are available as per University rules. Higher initial salary in the scale may be considered in case of exceptionally qualified and deserving candidates, (ii) candidates in employment must submit their applications through proper channel. Applicants called for interview will have to bear their own expenses. (iii) The University reserve the right not to fill any post without assigning any reason thereof. (iv) Applications/alongwith attested *copies of Certificates* should be submitted in seven copies on prescribed form. (v) Request for the prescribed application forms should be made to the Registrar by sending Rs 5/- in cash or by crossed bank draft, together with a self-addressed envelope of 23×11 Cm. size bearing postal stamps worth Rs 1.75p. for recorded delivery. (vi) Application must reach the Registrar's Office on or before **23rd June, 1980.**

H.N. Shukla
REGISTRAR

UNIVERSITY OF RAJASTHAN JAIPUR

Corrigendum

The following Corrigendum of advertisement No 9/80 issued by this *University is hereby notified :*

1. The post of Professor of Chemistry which was advertised for Physical branch is a General post of Professor of Chemistry and does not belong to any branch.
2. With *regards to the* posts meant for the Institute of Correspondence Studies & Continuing Education, "experience *of working in the Correspondence Courses*" would be considered as desirable qualifications.
3. The last date for the receipt of the application with reference to the above advertisement, is extended to **4th June, 1980.**

REGISTRAR

INDIAN INSTITUTE OF TECHNOLOGY KANPUR

Addendum to Advertisement No. 16/80 for Faculty Positions in the Department of Chemical Engineering / Electrical Engineering.

The qualifications and experience for the post of LECTURER may be read as follows :

> "Doctorate degree with a good academic record and adequate research development experience resulting in research papers of good quality.
>
> OR
>
> M.Tech. with good academic record and atleast three years of teaching research/Industrial experience with good record outside the work done for degrees.
>
> The candidates must have ability for good teaching and independent research evidenced by adequate publications or developmental work in any one of the aforesaid areas of specialisations."

ANDHRA UNIVERSITY
WALTAIR
Advertisement No. 2/80.

Applications in the prescribed form are invited for the following posts so as to reach the Registrar, Andhra University, Waltair on or before **16-6-1980.** Each application shall be accompanied by Bank receipt for Rs. 10/- (Rupees ten only) remitting the amount in the State Bank of India to the credit of Andhra University General Account (Ordinary) towards the Registration fee for the application. Candidates residing outside Andhra Pradesh may however remit the registration fee by M.O. in favour of Registrar, Andhra University and send the M.O. receipt along with the application.

Department	Professor	Reader	Lecturer
I. TEACHING POSTS			
Philosophy	..	1	2
History & Archaeology	..	1	..
Education	..	1	..
English	..	..	3
Hindi	..	..	1
Telugu	..	..	1
Engg. Mathematics (Engg. College)	..	1*	..
Pharmacy	1	..	..
Civil Engineering	..	..	1
II. NON-TEACHING POSTS			
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Lecturer—Rs. 700-40-1100-50-1600.

Field Work Supervisor & Community Organizer—Rs. 750-30-1020-35-1300. (D.A. Merged Half).

Note

The rule of reservation for S.C./S.T./B.C. candidates is applicable for the posts of Lecturers and Field Work Supervisors and Community Organizers.

The details of qualifications prescribed in respect of the above posts including the particulars and precise branch of specialisation which is needed and also the preferential qualifications considered desirable will be furnished along with the application form.

Requisition for the application forms may be made to Sri P. Hanumantha Rao, Joint Registrar, Andhra University, Waltair accompanied by a self addressed and stamped envelope and a State Bank of India Challan for one rupee. Candidates residing outside Andhra Pradesh may, however, obtain the application form by remitting one rupee by M.O. in favour of the Registrar, Andhra University towards the cost of application form and sending the M.O. receipt along with the requisition for application form. Postal Orders will not be accepted. The University reserves the right to fill or not to fill all or any of the posts. The cover containing the applications should be superscribed as "APPLICATION FOR APPOINTMENT TO THE POST OF ....". Applications received after 5-00 P.M. on the due date **will not be entertained.**

P. Hanumantha Rao
JOINT REGISTRAR

THE UNIVERSITY OF KASHMIR
SRINAGAR
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Applications on the prescribed application form to reach the undersigned by 7th of June, 1980 are invited for the following posts carrying the pay scales indicated against them :

1. Director, Centre of Research for Development—Rs. 1500-2500.
2. Reader in Commerce, Museology (Centre of Central Asian Studies)—Rs. 1200-1900.
3. Lecturer in Botany, Geography and History (temp.)— Rs. 700-1600.
4. Coordinator (NAEP)—Rs. 1100-1600.

The prescribed application forms can be had from the University office on cash payment of Rs. 6/- or by sending a crossed Postal Order drawn in favour of the Registrar of this University cashable at Srinagar Post-Office along-with a self addressed envelope (5" x 11") with the necessary postage.

Candidates are advised in their own interest to send their detailed curriculum vitae in advance.

Details in respect of the qualifications prescribed for the posts can be obtained from this office.

Peerzada Ghulam Hassan
Dy. REGISTRAR (Admn.)

JAMIA MILLIA ISLAMIA
Jamia Nagar, New Delhi-110025.
CORRIGENDUM

This is for information of all concerned that under Advt. No. 1/80-81 published in these columns in **Vol. XVIII No. 10, May '80.**

(1) Five posts of Professional Assistants and one post of Teacher in Hindi and Hindu Ethics in the Faculty of Humanities and Scs. may be treated withdrawn.

(2) The grade for the post of Secretary to Shaikhul Jamia is Rs. 700-1300 and not Rs. 700-1600 as advertised.

(3) The post of 'Lecturer in Education (Mathematics)' may be treated as 'Lecturer in Education'.

S. H. Naqvi
OSD/OFFG. REGISTRAR

MADURAI KAMARAJ UNIVERSITY
Palkalainagar Madurai-625021.
Notification No. 2/V/Advt./80.

Applications in the prescribed form are invited for the following posts in the University:

Department of Library and Information Science

One Lecturer in Library and Information Science.

Department of Management Studies

One Professor of Management Studies.

One Reader of Management Studies.

One Lecturer in Management Studies.

Department of Energy Sciences

One Professor in Energy Sciences.

Two Readers in Energy Sciences.

For Tirunelveli PG Extension Centres

One Reader in Sociology.

One Lecturer in Sociology.

One Reader in Inorganic Chemistry/Physical Chemistry.

One Lecturer in Organic Chemistry/Physical Chemistry.

ESSENTIAL GENERAL QUALIFICATIONS

Professor: A I or high II Class Master's Degree and a Ph.D. Degree in the relevant subject with not less than 10 years of teaching (postgraduate courses) and/or research experience including guiding research at doctoral level of which atleast 3 years must be of a Reader or a position equivalent thereto:

Reader: A I or high II Class Master's Degree and a Ph.D. Degree in the relevant subject with not less than 5 years of teaching (postgraduate courses) and/or research experience of which atleatst 3 years must be of a Lecturer or a position equivalent thereto.

Lecturer: Consistently good academic record with a first or high second Class Master's Degree and a Ph.D. Degree in the relevant subject with

(Contd. on page 309)

THESES OF THE MONTH

A list of Doctoral Theses Accepted by Indian Universities

SOCIAL SCIENCES

Psychology

1. Achamamba, B.Cognitive efficiency, personality and perceptions of time. Sri Venkateswara University.

2. George, V.C. Cognitive functions and adjustment in epileptics in response to treatment : A follow up study. Bangalore University.

3. Koshy, Raymol R. Obsessional states: A multiple classificatory approach. Bangalore University.

4. Parmar, Param. Human aggression: Its assessment. Bangalore University.

5. Vinutha, N.A. Problems of social identity and behavioural dysfunctions. Bangalore University.

6. Vora, Niranjan Bhaichand. An experimental study of some of the personality and situational determinants of cognitive consistency—inconsistency with special reference to tolerance and reduction of inconsistency. M.S. University of Baroda.

Sociology

1. Gogoi, Chandra Kanta. Occupational differentiation perception of status and social interaction in an oil town. Dibrugarh University.

2. Shrivastava, Arun Kumar. Modernization and democratic family: An empirical study conducted among the urban upper middle class Hindu family of Jabalpur. University of Jabalpur.

Political Science

1. Agrawal, Pratap Narayan. Bastar Zile mein jaghanya apradhon ke nayayik prashasan ka vigat dashabdi mein kalkramik anusheelan, 1968 se 1978. (Hindi). Ravishankar University.

2. Dwivedi, Somnath. Pradhanmantri Shrimati Indira Gandhi ke 20 sutriya karyakram ke prati rajnitik chetna evam drishtikon (Hindi). Vikram University.

3. Manikyamba, Palepu. Legislative Committees in Andhra Pradesh. Andhra University.

Economics

1. Agarwal, K.B. Industrial estates in Madhya Pradesh. University of Jabalpur.

2. Govind Nalini. Variations in wheat and rice responses to new technology in agriculture : A case study of selected regions in India. Jawaharlal Nehru University.

3. Vijay Kumar. Relationship between acreage sown and climatic factors in Lucknow District, 1891-1940. University of Delhi.

Law

1. Ayalasomayajula, Lakshminadh. Stare decisis in the Supreme Court : A critique. Nagpur University.

2. Jain, Subhash Chander. Expropriation of alien property and the problem of compensation. Jawaharlal Nehru University.

Public Administration

1. Pendyala, Seetha. Public corporation in Assam : An analytical study since 1960. Gauhati University.

Education

1. Dholakia, Jagruti Vipul. Effects of observers and feedback upon changing the class-room performance of pupil teachers. M.S. University of Baroda.

2. Mulay, Vinayak Nagesh. Construction and standardization of verbal test of intelligence in Marathi for the age group 12 to 18+. Marathwada University.

3. Seshadri, Malathi. An experiment in the use of programmed instruction in secondary school. M.S. University of Baroda.

Commerce

1. Deshpande, Manohar Uttamrao. Small scale industrial entrepreneurship in a developing region. Marathwada University.

HUMANITIES

Linguistics

1. Majumdar, Pares Chandra. A historical phonology of Oriya. University of Calcutta.

2. Pandey, Keshi Nath. A grammar of Dandami Maria. Ravishankar University.

3. Singh, Udaya Narayana. Some aspects of Maithili Syntax : A transformational—generative approach. University of Delhi.

4. Verma, Mehtaru Lal. Savaria boli ka swanprakriyatmak tatha subsuginimik adhyayan evam us per Hindi adi bhashaon ka prabhav. Ravishankar University.

Literature

English

1. Amir Ali, Shamim. A stylistic analysis of Indo-Anglian fiction. Ravishankar University.

2. Arya, R.C. Modality in English and Hindi. Central Institute of English and Foreign Languages, Hyderabad.

3. Major, Mehru M. Phonetics and phonology of Parsee. Gujarati and English. Nagpur University.

Sanskrit

1. Dey, Sitanath. Shukla Yajurveda: A study. Dibrugarh University.

2. Joshi, Kedar Narayan. Shri Shripad Shastri Hasurkar kee rachnaon ka samalochanatmak adhyayan. Vikram University.

3. Mishra, Vidya Prasad. Kavyapankriti Sarvanukramani evam Shadguru-shishya krit Vedarta Dipika ka anuvad tatha parisheelan. University of Gorakhpur.

4. Ojha, Shanker Dutt. Raghuvanash : Ek upjeevya kavya. University of Gorakhpur.

5. Sharma, Soma. Vyayogas in Sanskrit. University of Delhi.

6. Upadhyaya, Shrinivas. Ramayan aur Mahabharat mein Ayurved. Ravishankar University.

Hindi

1. Devaliya, Vishwa Bhavan. Hindi ke rangmanchiya natakon ka prastutikaran. University of Jabalpur.

2. Dobhal, Kusum. Hindi ke bal kavya mein prateek yojana evam kalpana tatwa. Garhwal University.

3. Gupta, Ram Niwas. Paurn charit kee vastugat evam shilogat prevrittiyan aur unka parvarti Hindi charitkavyon per prabhav. Maharshi Dayanand University.

4. Malviya, Ramchandra. Kedarnath Agarwal : Vyakti aur rachnakar. Vikram University.

5. Mishra, Praduman Kumar. Pragatisheel samiksha: Udbhaw vikas, pariniti. Vikram University.

6. Pathak, Snehlata. Adhunik Hindi kavya chintan ka vikas. Ravishankar University.

7. Prasad, Sneh Lata. Behari Satsai per Sanskrit, Prakrit evam Apbhransh ka prabhav. University of Delhi.

8. Sao, Baldau Prasad. Adhunik Hindi Kavya mein akhyanak pragiton ka anusheelan. Ravishankar University.

9. Savita Rani. Hindi aur Marathi ke samajik natak san 1960 ke bad mein. University of Delhi.

10. Shah, M.B. Swatantaryottar Hindi nibandh ke do dashak. Saurashtra University.

11. Shukla, Dinanath. Hindi mein charit kavya kee parampara aur uska adhyayan. University of Calcutta.

12. Singh, Dwarika Prasad. Sukarkhet kee boli ka samkaleen adhyayan. University of Gorakhpur.

13. Suman Kumar, T.K. Swatantaryottar Hindi tatha Telugu kahani sahitya mein samajik chetna. Vikram University.

14. Urmila Rani. Hindi lekhikaon ka swatantary prapatyottar upanyason mein purush kalpana. Garhwal University.

Urdu

1. Shireen Perveen. A critical study of the poetry of Mulla Wajhi. Utkal University.

Bengali

1. De, Dipak Kumar. Bangla abhidhan samiksha-o-mulayan. University of Calcutta.

Marathi

1. Choudhari, Kunda Khemraj. Mahanubhav kavi Krishi-

namuni **Dimbh** : Vyakti ani vangmaya. Marathwada University.

2. Potbhare, Sudha. 1940 te 1970 ya kalkhandateel Marathi pravas varanyanche vangmayeen samalochan. Vikram University.

Telugu

1. Gopala Krishna Murthy, Nandula. Andhra Mahabharathamu aupadisika prattipatihi. Andhra University.

2. Narasimha Charya, K. Studies in Tirunamamulu : Devotional songs of Srivaishnawas. Kakatiya University.

3. Venkata Ramanamma, Duggirala. Dvipada Bharata kavya parisilanamu. Andhra University.

History

1. Mishra, Basanta Kumar. The Cripps Mission : A revolution. Sambalpur University.

2. Sheth, Vanaraj Sankalchand. Transfer of power in South Arabia, 1959-1967. Jawaharlal Nehru University.

CURRENT DOCUMENTATION IN EDUCATION

A list of select articles culled from periodicals received in AIU Library during May, 1980

EDUCATIONAL PHILOSOPHY

Caskey, Bob. "Pedagogical theories of A.S. Makarenko: A comparative analysis". *Comparative Education* 15(3); Oct 79: 277-86.

Hall, Budd L. "Knowledge as commodity and participatory research". *Prospects* 9(4); 1979: 393-408.

Lobkowicz, Nicholas. "Ethical responsibility of the University". *International Association of Universities Bulletin* 27(4); Nov 79: 267-70.

EDUCATIONAL PSYCHOLOGY

Bates, John A. "Extrinsic reward and intrinsic motivation: A review with implications for the classroom". *Review of Educational Research* 49(4); Fall 79: 557-76.

Lozanov, Georgi. "Accelerated learning and individual potential". *Prospects* 9(4); 1979: 414-25.

Neumann, Yoram. "Perception of change in university departments". *Research in Higher Education* 11(1); Sept 79: 45-58.

Srivastava, J.P. and Maheshwari, Vimla. "Developing an academic motivation inventory". *Indian Educational Review* 14(3); July 79: 70-81.

Weinstein, Carol S. "Physical environment of the school: A review of research". *Review of Educational Research* 49(4); Fall 79: 577-610.

EDUCATIONAL SOCIOLOGY

Levine, Arthur and Wilson Keith R. "Student activism in the 1970s: Transformation not decline". *Higher Education* 8(6); Nov 79: 627-40.

Madan, P.J. "Research and education: Linkage in the universities". *University News* 18(5); 1 Mar 80: 107-8.

Nader, Ralph. "Student power 101". *Change* 11(8); Nov-Dec 79: 47-50.

EDUCATIONAL ADMINISTRATION

Ecker, George. "Relationship of institutional size and complexity to faculty autonomy : A reconsideration and caution". *Research in Higher Education* 11(4); 1979: 295-307.

Gupta, B.R. "An exploratory investigation into the present educational administration with a view to streamlining it". *Indian Dissertation Abstracts* 6(4); Oct-Dec 78: 329-31.

Mandelbaum, Seymour J. "Intelligence of universities". *Journal of Higher Education* (Ohio) 50(6); Nov-Dec 79: 697-725.

Neumann, Yoram. "Perception of power in university departments: A comparison between chairpersons and faculty members". *Research in Higher Education* 11(4); 1979: 283-93.

Puri, R.P. "Coordination committee for central universities". *University News* 18(5); 1 Mar 80: 113.

Schullery, Stephen E. "Calculation of productivity of laboratory—type courses". *Research in Higher Education* 11(1); Sept 79: 3-11.

Sivalingam, P. "Research and teaching management in universities". *University News* 18(5); 1 Mar 80: 109-12, 124

CURRICULUM

Rip, Arie. "Social context of 'science, technology and society' courses". *Studies in Higher Education* 4(1); Mar 79: 15-26.

Srivastava, P.L. "Development of Home Science degree programme in India". *Indian Dissertation Abstracts* 6(4); Oct—Dec 78: 331-4.

TEACHING

Gupta, R.N. "Programmed instruction vs. conventional method of teaching: A study". *Journal of Indian Education* 5(3); Sept 79: 10-14.

Smith, Howard A. "Non-verbal communication in teaching", *Review of Educational Research* 49(4); Fall 79: 631-72.

Smith, Philip L. "Stability of teacher performance in the same course over time". *Research in Higher Education* 11(2); 1979: 153-65.

Venugopal, K.C. "Microteaching: A novel teacher training technique". *Journal of Indian Education* 5(3); Sept 79: 20-3.

Yadav, M.S. "Learning through seminar: An experience" *Indian Educational Review* 14(3); July 79: 44-53.

EDUCATIONAL RESEARCH

Hawkridge, David. "Persuading the dons ?". *British Journal of Educational Technology* 10(3); Oct 79: 164-74.

EDUCATIONAL TECHNOLOGY

Jackson, Richard. "Television text : First experience with a new medium". *British Journal of Educational Technology* 10(3); Oct 79: 175-85.

EVALUATION

Aiken, Lewis R. "Relationships between the item difficulty and discrimination indexes". *Educational and Psychological Measurement* 39(4); 1979: 821-4.

Koul, Lokesh. "Scaling of some significant innovations in examination system: Views of university teachers and students". *Indian Educational Review* 14(3); July 79: 18-33.

Livingston, Samuel A. and Wingersky, Marilyn S. "Assessing the reliability of tests used to make pass/fail decisions". *Journal of Educational Measurement* 16(4); Winter 79: 247-60.

Natārajan, V. "On the optimum number of choices in multiple choice items". *Indian Educational Review* 14(3); July 79: 114-21.

ECONOMICS OF EDUCATION

Ashenfelter, Orley and Ham, John. "Education, unemployment, and earnings". *Journal of Political Economy* 87(5) Pt 2; Oct 79: S99-S166.

Feasley, Charles E. "Quantitative exploration into environmental determinants of two types of higher education spending". *Research in Higher Education* 11(4); 1979: 343-52.

Finn, D. Francis. "Developing and applying useful financial indicators". *New Directions for Higher Education* 7(2); 1979: 81-3.

Hare, P.G. and Ulph, D.T. "On education and distribution". *Journal of Political Economy* 87(5) Pt 2; Oct 79: S193-S212.

Psacharopoulos, George. "Academic work and policy formation". *Prospects* 9(4); 1979: 409-13.

Willis, Robert J. and Rosen, Sherwin. "Education and self-selection". *Journal of Political Economy* 87(5) Pt. 2; Oct 79: S7-S36.

ADULT EDUCATION

Bereday, George Z.F. "Lifelong and adult education as they interrelate with the democratization of higher education". *Higher Education in Europe* 4(4); Oct—Dec 79: 10-11.

Ruddar Datt. "Recent developments in correspondence education in India". *A.C.U. Bulletin of Current Documentation* (43); Apr 80: 2-6.

COMPARATIVE EDUCATION AND COUNTRY STUDIES

Muller, Stevan. "A new American university?". *Daedalus* 107(1); Winter 78: 31-46.

NEW BOOKS RELEASED

HUMANITIES

NEPAL
A STUDY IN CONSTITUTIONAL CHANGE
H.N. Agrawal *Rs. 55.00*

This study is unique and timely, focussing important issues and aspects relating to constitutional changes in Nepal.

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This book with its lucid description and rich contents will be of immense help to students at all levels, professionals, research workers as well as trainers of field workers in the interdisciplinary and multidisciplinary social behavioural sciences.

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